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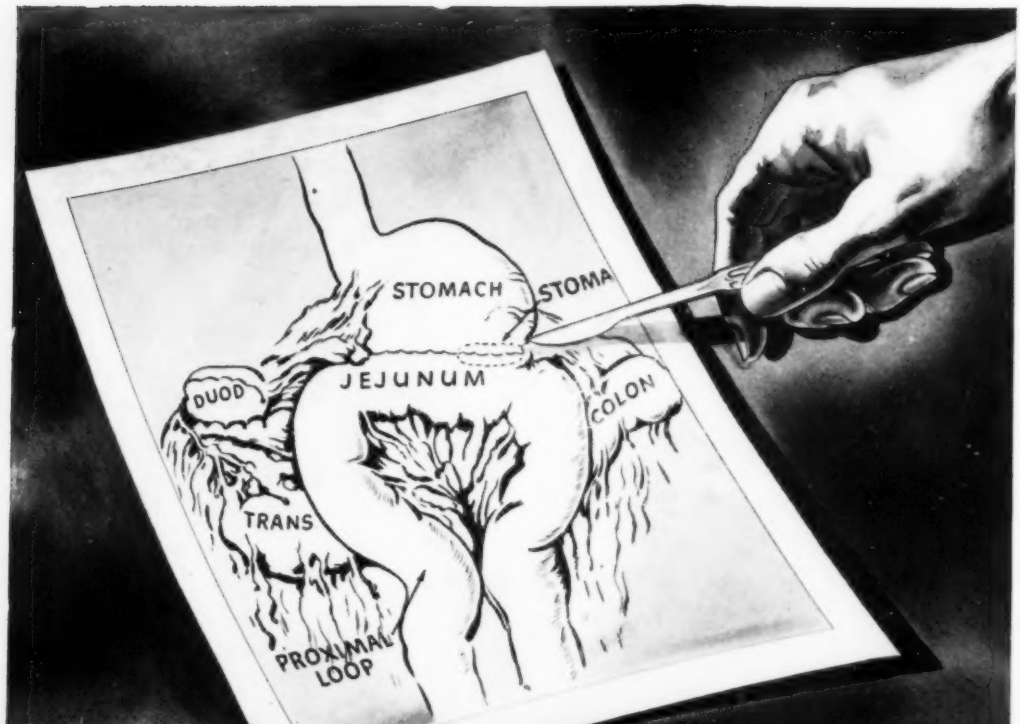

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THE JOURNAL
OF THE
OKLAHOMA STATE MEDICAL ASSOCIATION

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Some Observations Relative to Surgery of the Thyroid*

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Seeing patients daily in the clinic and in surgery gives one an opportunity to test theories and practices. Our theories are not always right and most of our practices may be improved. It is of our theories and practices that I propose to speak and I ask your indulgence while I give you our present opinion regarding disease of the thyroid gland and its surgical management.

The thyroid is a gland of internal secretion whose chief function, so far as is known, is the elaboration and storage of its own peculiar hormone or secretion which we call thyroxin. Originally it was a gland taking part in digestion, but in the course of evolutionary changes, it has lost its connection with the alimentary tract. As Means[1] aptly said, "For a role in digestion it has substituted a role in metabolism." In man, the thyroid attains its relative maximum size just prior to puberty, corresponding to the time of the greatest load on the organs, from factors of growth and development. Simple colloid goiter, so common in this age, is a clinical manifestation of this physiological fact.

Mangus-Levy[2] first recognized that the thyroid plays a role in the regulation of heat production or its equivalent, metabolism. Just how the thyroid controls these oxidation processes is not absolutely certain. We have definite clinical evidence that the condition we describe as myxedema, in which there is retention in the body tissues of water, salts and proteins[3], can be relieved by the administration of thyroxin. In a state of scarcity of the hormone, the patient lives at a low emotional level, reacts sluggishly, and cerebrates slowly. Conversely, the giving of large amounts of thyroxin to a normal individual will produce the symptoms and findings of hyperthyroidism. The action of an excess of the hormone causes emotional instability and increased irritability.

Coggeshall and Greene[4] have shown that thyroid hormone not only depletes hepatic glycogen but if in excess, can injure the liver so that it is unable to store glycogen. On the contrary, thyroidectomy leads to excessive storage of glycogen in the liver.

The hormone can produce changes in the muscular system varying from myasthenia to advanced muscular atrophy and hypotonicity.

The blood supply of the thyroid is abundant as the blood volume of man goes through the thyroid about once an hour. There is also a rich lymph plexus in close proximity to the follicles, and it is supplied by a rich network of autonomic nerve fibers, but we do not as yet know whether these fibers are secretory or vaso-motor.

If, in discussing pathology of the thyroid, one must give a classification in order to be didactic, the one below is brief and clinically workable:

1. Inflammation.
2. Tumors.
3. Goiters.

Briefly, the inflammatory diseases can be designated as acute or chronic. The acute conditions are rare and the treatment is conservative, unless suppuration develops. This

*Read before the Annual Meeting held in Oklahoma City, May 11-12, 1943.

requires drainage. The chronic inflammatory changes are commonly known as Hashimoto's disease and Riedel's struma. The treatment for Hashimoto's disease is total thyroidectomy, but insofar as I know, there is no treatment for Riedel's struma; perhaps the roentgenologists can aid us.

The tumors of the thyroid are the fetal adenomas and malignancies. The first are amenable to removal; the latter, total thyroidectomy followed by radium or x-ray.

The most common deviation from the normal is a symmetrical enlargement of the gland noticed most frequently around puberty. If the enlargement is gradual or slow, the gland will probably return to normal, or at least so far as we can tell, it is normal, but I am beginning to believe these adoles, cent goiters return to haunt us in later years, especially if they are neglected and forgotten.

There are two definite states to be discerned in goiters; one, overactivity characterized by epithelial hypertrophy and hyperplasia, and the other, degeneration of cells and colloids and quite often we see a mixture of the two. When stimulation to hyperplasia occurs, the stage is set for all the processes that follow. When can we know that hyperplasia is occurring? Only when the patient shows symptoms which we associate with toxicity. These may develop early or late, insofar as the enlargement of the thyroid is concerned. We feel the development of these symptoms depends on two things, namely, the degree of toxicity, and the ability of the body to withstand toxicity up to a given point. What starts the hyperplasia? The work of Marine is outstanding in this respect. He believes that the normal demands on a subefficient gland, whether it is due to lack of iodine or due to an originally substandard gland, is the beginning of a hyperplasia. Occasionally an emotional frustration, business anxieties, accidents, infections and vitamin deficiencies seem to be the inciting factors. As you know, the majority of goiters, or perhaps I should say goiter symptoms, develop after the third decade of life. Clinically, the only suggestion I can offer is that the thyroid gland is able to bear the stress and strain for years before its secretions become increased or altered, and that the body can perhaps withstand this increase or alteration of the secretions for a length of time.

In goiters occurring in the young, usually the stimulation is supplied to a gland which has had to bear the stress of life for only a few years, therefore, nothing hinders it from responding and, due to the youthfulness of our bodies, we are able to tolerate the toxicity unless it is unusually severe. The heart races but does not fibrillate. The nervous system is "on fire" but seldom do the patients lose their mental faculties. As the toxicity persists, nervousness increases, pulse becomes more rapid, pulse pressure increases, there is loss of weight, muscular weakness, the eye signs become more prominent and exophthalmos may develop. These symptoms may subside, only to return as age progresses and degeneration begins, and is characterized by fibrillations, muscular weakness, hypertension, signs of cardiac and liver failure. This, I think, can be clinically explained by persistent toxicity with changes in the body tissues due to age. If time permitted, I could show you intervening stages with clinical and pathological findings,linking up the two extremes. What we are trying to determine is whether or not all goiters are toxic. We have been able to prove clinically that the removal of a so-called adenoma will lower the metabolic rate and reduce irritability and nervousness, although no cardinal symptoms of toxicity were present clinically. Who was wrong, the examiner or the thyroid?

Recognition of toxicity is dependent on the acuity of the patient and the doctor. A high-strung individual is likely to make a fuss about anything, while a hard-working, busy housewife may have toxic symptoms but never makes known her complaints until she has run the entire gamut of the disease and is dying of a toxic goiter. The doctor must recognize the early nervous symptoms. This can be done only by careful studying of the patient and making a meticulous examination of the thyroid gland. Many of the doctors that I have seen, are able to palpate and examine a thyroid within a period of ten to fifteen seconds, naturally nothing is ascertained.

The basal machine must not be used as a yard-stick with reference to the amount of activity in hyperthyroidism. Neither should it be used to determine the amount of thyroid extract one should give in cases of hypothyroidism. It has been shown by Broda Barnes that basal temperature is a better index for the amount of thyroid to be given .

In other diseases, we take great pride in striving for an early diagnosis. No one can question the good results that are obtainable through surgical procedures, yet few goiter patients come to surgery until their toxicity is severe. We have no hesitancy in eradicating an infected cervix or pre-cancerous lesion of the skin, still we are prone to allow our patients to run the entire range of hyperthyroid symptoms before surgery is advised. We insist that stones be removed from the kidney before the organ is damaged too severely; likewise do we insist that infected

gall bladders be removed before serious liver damage develops. Why should not goiters be removed before invalidism develops? An early diagnosis can be made if we do a good physical examination, carefully studying our patient relative to nervous symptoms and the physical condition of the thyroid and then advise a therapeutic test with iodine. I can mention no laboratory procedures that are of any benefit. When the thyroid is removed and the symptoms having been eradicated, the patient is most grateful.

Once the diagnosis is made we strive to get the patient in the best preoperative condition, which not only includes a stabilization of the patient's mental, nervous and cardiac system, by whatever therapeutic measures are necessary, usually Lugol's solution and phenobarbital, but also includes large amounts of glucose and insulin, which we think has a direct bearing on the liver function. The gland is palpated frequently. When it softens and becomes movable, when the pulse rate lessens, when the patient gains or at least maintains his weight, then the time for surgery is ripe.

Criles dictum for the choice of operative procedure, whether it be polar ligation, lobectomy, partial or total thyroidectomy, depends on the age, physical condition, the duration of the disease, and emotional state of the patient. If this dictum were still observed in the severe cases in which a late diagnosis has been made more satisfactory results would be obtained.

Keep the original clinical picture of your patient in mind while planning surgery, as occasionally the preoperative reaction is so pleasing that the patient is scurried off to surgery before the patient or the gland is operable. Naturally, poor results follow.

We do all of our thyroidectomies under local and I assure you this is a most ideal anesthetic. Our technique is the one advocated by Hertzler, the anesthesia is excellent, the dissection is easy, there is little bleeding, and the structures are easily identified. In young patients, we remove at least 80 per cent of the gland. In patients past 30 years of age we do a total thyroidectomy. We wonder how many total thyroidectomies have been done unknowingly, as the usual technique is to ligate the superior, middle and inferior thyroid vessels, then leave a strip of gland along the trachea and in many instances this is sutured by a running stitch, which we think will produce necrosis or fibrosis of the remaining thyroid tissue. All of our operative wounds are closed with gauze drainage but they can be closed without any drainage whatsoever. Postoperatively, they are given large amounts of glucose and insulin intravenously for three days and then, if there is an increase in temperature or pulse rate, it is continued, This is done even if the patient is able to retain fluids by mouth, and we feel that we can see a distinct improvement in our postoperative reactions.

It is well known that partial thyroidectomy may be followed by exophthalmos, and that exophthalmos may become worse after partiel thyroidectomy. This has not been our experience in any of our total thyroidectomies and no case of tetany has followed any of our operative procedures. We have had two cases of mild myxedema which followed total throidectomy. These two cases developed in elderly women with hard, enlarged thyroids, and who had hypertension for which no other cause could be found. If a patient has signs of toxicity which include any or all of the common symptoms and findings such as irritability, increased pulse, loss of weight, fatigue, eye signs or symptoms referable to cardiac disturbances, and has an enlargement of the thyroid especially if it be hard or nodular, and is relieved by rest and iodine, thyroidectomy is advised and the results have been gratifying. Caution must be exercised lest we regard a slow enlargement or firmness of the thyroid gland as normal, and assume that the associated symptoms are primarily idiopathic.

I would like to interject here a brief history of one of our most interesting cases which, clinically and pathologically, had symptoms and findings of both hyperthyroidism and hypothyroidism:

Mrs. D., age 52, was first seen by Dr. L. E. Woods in June, 1941. Her complaint was of swelling of both lower extremities which had been present for some ten months. He elicitated a history of nervousness, palpitation, and the loss of 30 pounds of weight in six months. The findings at that time were: pulse 110, blood pressure 166/68, flabbiness of the skin, marked digital tremor, lid lag and a firm, fixed, enlarged thyroid. The skin of both lower legs presented a bronzed appearance, and appeared tight and glistening, and did not pit with pressure. She was sent to the hospital; her weight was 126½ pounds, her BMR was plus 66, and the above findings were confirmed. A preoperative diagnosis was made of hyperthyroidism with localized myxedema. A total thyroidectomy was done and a biopsy was taken from the skin of each leg. The pathologist reported hyperthyroidism associated with localized myxedema. She made an uneventful recovery, all of her toxic symptoms subsided and the myxedma disappeared. She was last seen on January 6, 1943, at which time her weight was 145½ pounds, blood pressure 138/80, pulse was 72. She was feeling extremely well and had no complaints. Her BMR at that time was minus 5.

We began doing total thyroidectomies with caution, selecting our cases using as our criteria, extreme toxicity and cardio-toxic patients, who were past 40 years of age, doing this on the assumption that the thyroid had by this time completed its role in growth and that perhaps it has fulfilled its relationship with the other glands of internal secretion. Our results have been so gratifying that we are slowly lowering the age limit.

Apparently, the fear of myxedema is the one and only reason why surgeons have not done total thyroidectomies. Should this develop, it is easily and accurately controlled. Contrast this with the failure to remove enough of the toxic goiter; the symptoms persist, organic damage progresses and another operative procedure is usually necessary. At the present time, at least until the physiologists, research men or clinicians can offer something better, we believe total thyroidectomy is the solution to toxic goiter.

DISCUSSION

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Dr. McClure has given us a good paper on this subject. His discussion of the cause and development of goiter are excellent, and his observation in regard to the relationship between the thyroid enlargement of adolescence, and goiter of later life deserves careful consideration. To the medical practitioner and pediatrician, this is of special importance, as the treatment of this condition offers much in the prevention of goiter. I think that goiter is now sufficiently prevalent in our locality that prophylaxis should be instituted in all children during the adolescent age.

Since goiter is the most frequent pathologic process with which we have to deal in surgery of the thyroid gland, I shall devote my discussion to that phase of the subject.

To keep in mind the clinical classification of goiter adopted by the "American Association for the study of Goiter" greatly simplifies ones conception of the subject, and indicates the management best used in the treatment of the condition.

Goiters, and this excludes inflammation and malignancy, are divided as follows:

1. Diffuse non-toxic goiter.
2. Diffuse toxic goiter.
3. Nodular non-toxic goiter.
4. Nodular toxic goiter.

The first is largely a medical problem, the others, in the light of our present knowledge, are surgical with surgery to be instituted at a proper time. The essayist's observation that too many of these cases are permitted to go on to a dangerous phase is an important point.

The early diagnosis of toxic goiter is of extreme importance, having a definite bearing not only on the safety of operation, but on the expectancy of life in those who are submitted to surgery. Too many of these cases are being treated, even after diagnosis has been made, by the continued administration of iodine, thus depriving the surgeon of an important adjunct in the preparation of these cases for safe surgery.

Most cases are easily diagnosed. The questionable case should be kept under observation until a diagnosis can, with greatest certainly, be made.

We doctors treating thyroid disease have many more patients consult us who do not have thyroid trouble, than those who do have it. All of these cases whether they have or do not have goiter, are entitled to a very careful examination before an opinion should be given. Operation on the thyroid is too serious a matter unless the patient has a definite diagnosis and can be assured of the expected benefit. I think Lahey has made an important observation when he says that when first seen, before preoperative preparation is begun, the gravity of the risk should be placed on record. Many of these toxic cases will be so improved on preparation for operation, that when they come to surgery it is easy to underestimate the postoperative reaction they will develop.

The death rate of thyroid surgery has reached the low percentage today of about one per cent and if we are to do this type of work every safeguard must be used.

An eminent authority recently expressed this in a way that brings the responsibility for mortality in thyroid surgery very close to the operator. He believes that mortality in thyroid surgery comes from the following three causes:

1. There is an unpredictable mortality that is incident to any major surgery, vascular, accidents, etc.
2. Error in judgment as to when to operate, or how extensive an operation to do.
3. Errors in technique.

The first is probably unavoidable, the other two can be minimized by careful preparation and observation of the patient during this time, and extreme care in doing the operation.

There is a mistaken idea that the diffuse toxic goiter, after the administration of Lugols Solution for ten or twelve days, is ready for surgery. In many of them a sufficient remission is secured in that time so that operation is permissible . In others and particularly in those of long standing, or in

those who previously have had iodine, a much longer time is required. I have seen no case harmed, or any of the beneficial effects lost, by prolonging the time of preparation.

The nodular toxic goiter of severe degree, and all toxic cases with vascular degeneration require, in addition to iodine, digitalis and plenty of rest and carbohydrate food. We give almost all of our cases glucose intravenously for a day or two before operation. Salt solution subcutaneously is always given when the patient returns from surgery. Local anesthesia should always be used unless one has available an anesthetist trained in thyroid surgery. No anesthetic should be used that does not permit the patient to be awake before closing the wound.

I have great respect for Dr. Hertzler and his students. Some of their opinions have not been adopted by most of our great authorities. I have not felt that I could do a rather large number of thyroid operations as safely by attempting a complete thyroidectomy. We continue to do a sub-total thyroidectomy with about two per cent recurrences, and have more trouble with hypothyroidism than we like. It has been a long time since we have had any serious trouble with tetany or bilateral adductor paralysis. For either condition I have the utmost respect. I am not condemning total thyroidectomy. It unquestionably has advantages, but I do not believe, that in the hands of the majority of doctors of thyroid surgery, it will prove to be technically as safe as the sub-total procedure.

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Dermatomyositis

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Dermatomyositis is a nonpurulent, rare polymyositis of a multiform character in which there is associated inflammation and degeneration of many muscle groups. There is a marked erythema of the skin associated with an edema of the lardaceous type. The course of this condition is variable. It may begin insidiously with listlessness and headache later followed by various types of eruptions and muscular weakness. Some of the cases are ushered in with chills and severe symptoms, and are rapidly progressive with death ensuing in one or two months. This is known as the acute type.

The sub-acute types have comparatively mild symptoms and are subject to partial remissions. In 60 per cent of the cases the outcome is fatal due to inflammatory involvement of the myocardium and the muscles of deglutition, and respiration. Those cases which recover are usually marked by residual muscular atrophy and permanent cutaneous changes.

Wagner[1] in 1863, was the first to describe this condition as a muscular disease. Potain[2] in 1875 used the term atypical glanders in describing a similar case. In 1887, Wagner[3] gave a report of a like condition which he called acute polymyositis. It was Unverrichit[4], in 1891, who described it under it's present title—dermatomyositis. Weber and Gray[5] gave an excellent review of the disease and stressed the predominant involvement of the subcutaneous fat.

OCCURRENCE

Both men and women are affected with it but it is much more frequent in women. It is an affliction of early middle life and effects the white race only. About 15 per cent of cases are in children.

ETIOLOGY

Most authors believe this condition to be caused by an infectious agent. Various organisms have been isolated from the infected muscles, including streptococci, diplococci and staphylococci. In most cases, however, no organisms are recovered from the blood or tissue culture. Many cases followed acute infections such as tonsillitis, chronic abscess, sinusitis and other infectious diseases. O'Leary[6] suggests that it is a bacteremia in a transitory or passive sense in which there is a migration to the muscles through the

lymph channels from the foci, rather than a frank infection of the blood stream. There is also the second possibility that the resultant changes in the skin and muscles are due to bacterial toxins.

SKIN ERUPTION

The eruption has great similarity in some instances to two of the light-sensitive dermatoses; that is, lupus erythematosus disseminata which is always fatal and which Lane[7] first diagnosed his reported case to be; pellagra, which is probably the most common early diagnosis made for these cases. The skin eruption may be a bright red like erysipelas originating on the eyelids and cheeks and spreading over the face and part of the neck. Other cases reported were deep red, more like lupus erythematosus. The lesions on the body are of many types—urticarial, morbilliform, eczematous, vesicular and petechial. Fever may be intermittent, sometimes associated with a large spleen. Quite a number of cases are afebrile for many months.

MUSCLES

Many groups of muscles may be affected. In O'Leary's[6] group of 40 cases he reported that fifteen of them had generalized muscle involvement. In 24 the extremities were involved first. In all of them the outstanding involvement was in the muscles of the shoulder girdle, arms and neck. Twenty-seven cases had involvement of the pharyngeal muscles. Thirteen had vocal cord changes. Pathologic examination of the muscles show intracellular edema and hemorrhage between the muscle bundles and waxy degeneration of the muscles proper which caused them to be pale staining. Many show loss of striation. There is also a perivascular infiltration of lymphocytes, plasma cells and mast cells.

REPORT OF CASE

Mrs. E. F., 30 years old white woman, was admitted to the hospital on September 10, 1942. Her chief complaints were swelling of her face and sore muscles of six month's duration. The eruption started around the eyes, on the upper and lower lids and gradually spread to the forehead and upper lip. At the first the skin would swell, become red, and itch and then partly clear. It finally became constantly swollen. The eruption spread over the anterior face and down the neck forming a definite "V" at the exposed area over the chest. A red papular eruption appeared on the dorsum of the hands along the prominence of the phalangeal metatarsal joints. The patient had not felt well since the delivery of her last child in February, 1942 and during the past two months, before entrance to the hospital, she had complained of considerable pain in her neck, shoulders, and arms and felt weak with lack of energy. In March, 1942, she received intravenous treatment for sinus trouble and also consulted doctors who cauterized her cervix and said she had a chronic infection of the cervix.

The past history revealed fever and repeated maxillary sinusitis, also repeated attacks of sore throat; otherwise, very good general health. There was no family history of any similar skin trouble like scleroderma or dermatomyositis. This patient had had four deliveries, the first being six years ago and the last, nine months ago. There was no evidence of pelvic pain or history of trouble with female organs.

The examination revealed a rather small, undernourished, white woman who appeared weakened and void of energy. The face in the anterior portion, on the forehead and down across the cheeks was reddened and swollen, most of the swelling and redness being just beneath the eyes. The nose was swollen in the area of the bridge and there was a redness extending down over the neck and running in a "V" shape on the chest down to the breasts. This eruption was reddish-blue in color and had a thin, white scale in some areas over the surface, resembling very much that seen in disseminated lupus erythematosus. At the "V" of the neck there were white-gray areas resembling scleroderma. There was a beginning redness on the back and the knees and some on the flexor surfaces of the arms. The tongue was somewhat reddened in the lateral borders. On deep pressure over the biceps and muscle groups in her neck she cried out in pain.

Vaginal examination revealed a slight laceration of the cervix but no evidence of infection.

Examination of the locations of a possible focus of infection revealed:

Throat: Effect of tonsillectomy with small tonsil tag at left base.

Nose: Right-mild congestion, otherwise negative. Left-mild congestion, otherwise negative.

Ears: Negative.

Sinuses: X-Ray revealed no evidence of infection.

Muscle biopsy removed September 22, 1942, revealed the following: the microscopic examination showed skeletal muscle which showed an occasional small area of interstitial tissue intensely and diffusely infiltrated with lymphocytes and plasma cells. The most marked areas were about the smaller blood vessels. They were fairly well circumscribed areas. Some of the muscle fibres appeared moderately degenerated with absence of striations and in several areas the muscle fibres were frayed. There was no specific type of degeneration and trichinae were not found. The overlying fat and con-

nective tissue was also infiltrated with a few scattered lymphocytes in some areas.

The patient was studied from a bacterial standpoint and the bacterial complement fixation tests were four plus in reaction for a number of diagnostic streptococcus strains, especially a hemolytic type of diplococcus, a non-hemolytic type of streptococcus and a hemolytic type of streptococcus viridans. A four plus reaction for a hemolytic type of bacillus of the colon group was also found. Cultures made from the nasal mucosa revealed a hemolytic type of streptococcus viridans of the short-chain variety and a diplostreptococcus of the non-hemolytic type.

Agglutination tests, done with the autogenously isolated organisms, on her blood serum revealed three plus agglutination in dilutions of 1-100 against the hemolytic type of streptococcus viridans, and two plus in dilutions of 1-200. Blood cultures were repeatedly negative. The red cell sedimentation test gave a positive curve.

The blood count on entering the hospital revealed hemoglobin 73 per cent, rbc 3,690,000, color index, size normal, shape normal, wbc 5,500, neutrophiles 27 per cent, small lymphs 60 per cent, eosinophiles 3 per cent. After several transfusions, the blood count, on October 2, was as follows: hgb 80 per cent, rbc 4,180,000, color index 9, wbc 6,200, neutrophiles 64 per cent, lymphs 36 per cent. On October 20, even with transfusions, the red count reduced to 3,640,000 with a marked increase in white count to 23,750, neutrophiles 94 per cent and only 5 per cent lymphs and 1 per cent myelocytes. Urine was apparently normal on admission but towards the end showed trace of albumin. Blood chlorides were 395 mg. per cent, blood urea nitrogen 12.2 mg. 5 per cent and basal metabolism rate was plus 10.

On admission to the hospital the patient was given sulfathiazole, 30 grs. daily, vitamin B complex in large doses, and diathermy. She was also given prostigmin menthyl sulfate as recommended by Lane of St. Louis, which apparently gave no relief from the muscle pain after two or three day's trial. Because of the history of several remissions in other cases by fever therapy, the patient was given three successive fever treatments up to 105 F. by the use of typhoid vaccine intravenously. There was marked relief of edema and reduction in amount of erythema and pain in the muscles. The patient was given sulfathiazole in doses of 46 grains daily for two weeks with little change in general condition, so was then given neoprontosil 40 grains daily. Repeated blood transfusions were given with little reaction and only slight improvement.

Through most of the early course the patient had remained afebrile but on October 10, the temperature curve remained a little above 99 F. From October 10 to October 19, the temperature ranged from 100 F. to 101 F. After the discontinuance of sulfanilamide once for 36 hours, there was a spiking of the temperature to 103 F. and immediately on resuming the sulfonamides, the temperature was reduced to around 100 F. From October 19 until death, there was an intermittent septic type fever ranging from 102 F. to 104 F. associated with chills. The last four days before death the temperature was rarely below 102 F.

Because of the light desensitizing effect of theelin in other dermatoses, large doses were tried for a week without any noticeable effect . In spite of supportive treatment, the patient became more debilitated, respiration and swallowing were more difficult and the day before her death, the breathing was entirely diaphragmatic in type. During the last week, the skin eruptions had spread over the entire back and over the breasts down to the umbilicus where there was a cleared area of normal skin in the shape of a large "V". The anterior surface of the legs was involved but the posterior aspect remained clear. She finally expired on October 31, 1942.

Fig. 1—Shows the marked lardoceous type of edema of the face and neck.

AUTOPSY

External Examination: The body was that of a fairly well developed and apparently slightly undernourished white woman of 25

to 35 years. The body was not embalmed. The skin of a greater portion of the arms, much of the anterior chest, some of the thighs and legs and other portions of the body were thickened, wrinkled, that is, to some extent, with considerable edema of the mid-portions of the arms. Sections were taken from the midsternal portions of the chest.

Internal Examination: The peritoneal cavity showed no free fluid, the peritoneum being smooth and glistening. The omentum was free. The pleural cavities showed no free fluid. Surfaces were smooth and glistening. Pericardial cavity contained an average amount of clear, straw colored fluid, and the pericardium was smooth and glistening. The lungs were pinkish gray and crepitant throughout except for rubbery, purple, atelectatic areas of the dependent portions. Considerable thick, mucoid fluid exudes from the larger bronchi. The heart was average size and shape except for extreme flabbiness of the entire right myocardium, the tricuspid valve being dilated. The left ventricle was contracted, waxy, red and moderately firm, and the greater vessels were grossly normal. The spleen was waxy, weighed roughly 300 grams, reddish-purple capsule, tense. Cut surface was purple, slightly bulging, pulp scraped easily. The liver was waxy, reddish-purple, surfaces smooth, regular, margins were slightly rounded. Cut surface was reddish brown, normal markings indistinct. Gallbladder and bile ducts were grossly normal. Left kidney was normal, average size, capsule stripped easily, surface was moderately pale, smooth. Cut surface showed poor differentiation between the cortex and the medulla. Peri-pelvic fat was slightly increased. Pelvis and ureter were grossly normal. The right kidney was similar to the left. Bladder was grossly normal; genitalia was normal; skeletal muscle showed intercostal and abdominal muscles waxy, reddish brown and moderately moist. Section was taken from intercostal muscles.

Gross Diagnosis:

1. Generalized dermatitis and myositis.
2. Dilated right heart.
3. Passive congestion of the spleen.
4. Liver degeneration.

MICROSCOPIC EXAMINATION

The skeletal muscle (intercostal) muscle fibers appeared slightly swollen and the individual cells were indistinct; interstitial tisue was unremarkable. There were no infiltrating leukocytes. Vessels were unremarkable.

Microscopic Diagnosis: Granular degeneration and cloudy swelling.

The myocardium showed granular degeneration; muscle fibers appeared smaller than the average. No remarkable changes were noticed in the nuclei.

Microscopic Diagnosis: Granular degeneration.

Anterior chest wall showed the epidermis almost completely desquamated. Superficial portions of the corium were dense and hyaline. Deeper portions of corium appeared denser than the average. There were no areas of infiltrating lymphocytes. Sweat glands appeared atrophic. Liver showed diffuse congestion and a moderate granular degeneration. Spleen showed moderate congestion but was otherwise apparently unremarkable. The lungs showed patchy areas intensely infiltrated with leukocytes. The surrounding structures were greatly congested. The vessels were larger than the average and were packed with red cells. Bronchioles filled with exudate.

Microscopic Diagnosis: Bronchitis, peribronchial pneumonia and congestion. Kidneys were unremarkable except for moderate congestion and slight granular degeneration.

DIFFERENTIAL DIAGNOSIS

Among the conditions to be differentiated from dermatomyositis, the most difficult is scleroderma which involves the skin and subcutaneous tissue. Histologic studies of scleroderma offer a differential diagnosis, particularly those of the muscle fibres, since there is usually no degeneration of the muscle fibres as in dermatomyositis. Scleroderma usually is more discreet and limited in extent, but there are many cases in which it is almost impossible to differentiate the diseases.

In lupus erythematosus disseminatus, the edema is not of the lardaceous type, the fever is much higher, and pain is not over the muscle groups but usually in the joints. There is nearly always a leukopenia and muscle biopsy does not show degeneration of muscle bundles. The skin manifestations as shown in our case and Lane's may resemble lupus erythematosus to a great extent.

Erysipelas is usually ushered in with more acute symptoms, with chills and the erythema of the face is a much brighter red. It usually starts with a small area and spreads very rapidly. Fever is high and there is no muscle swelling or pain.

Trichonosis, especially when the edema of the face is present, offers a difficult differential diagnosis. There is usually an accompanying gastrointestinal disturbance and the diaphragm and eye muscles are usually those affected by the Trichina. These are not usually early affected in dermatomyositis. Pathological examination of the muscle bundles reveals Trichinae.

Scleredema, adult form of Buske, may offer some difficulty in differentiation because the onset is somewhat similar to dermatomyositis. There is erythema of the face and neck and a tense edema of the skin over the upper extremities, chest, back and neck and face and sometimes generalized. The process may not only involve the dermis and subdermis but also the fascia and muscles. But, instead of progressing to the indurative and atrophic stages of scleroderma or the painful, destructive myositis of dermatomyositis, the process slowly regresses (8 to 18 months), leaving little or no residual changes.

Muscle biopsy does not show the infiltration and degeneration of dermatomyositis, but a looseness and swelling of the callogen with the interspaces filled with a homogenous mucin-like substance. The disease follows various infectious processes, i.e., whooping cough, influenza, scarlet fever, mumps, bronchitis, encephalitis and phyodermas.

REPORT OF A CASE

Mrs. C. J. reported to us complaining of redness and stiffness of the skin of the face, neck, breasts, upper abdomen, back and arms of four months duration. She complained of tenseness and rigidity of the neck and there was limitation of motion of the upper part of the body with particular emphasis on the mouth and jaws. She said that breathing was becoming most difficult and feared the tenseness would impede all respiration.

The redness and swelling was first noticed about the cubital fossae then the breasts and finally spread over the face and neck. She was placed on a limited diet, devoid of fats and was given small doses of thyroid without much improvement. Blood Wassermann test was negative and urinalysis was negative for albumin and sugar. Patient was chronically constipated and menses had been irregular since the onset.

The examination revealed a well-nourished white woman of 29 years of age who was not acutely ill. The temperature was 98.6° F. There was an erythema over the face, neck, breasts and arms which was not intense in type, the color not being bluish-red but pinkish-red. The skin appeared tense as though a substance had been injected beneath it. In the folds of the skin, at the cubital fossae, about the wrists and under the breasts, the color of the skin was blanched out by more induration. The creases of the skin were light red and were more depressed than normal although they were not fissured. The skin in these areas was rough, particularly on each side of the points of flexion . The general skin surface was not shiny and there was not the dryness of the myxedemous patient.

The tonsils were not enlarged and sinuses showed no signs of infection. The rest of the general examination was essentially negative. The basal metabolism rate was plus five. The blood count was, rbc 4,460,000, wbc 6,250, neutrophilis 49 per cent, lymphocytes 48 per cent, monocytes 2 per cent and eosinophiles 1 per cent.

The patient was given thyroid extract grains one and one-half daily, and local massage with some improvement. Later, Dr. Paul O'Leary of the Mayo Clinic saw the patient and agreed with the diagnosis, suggesting use of typhoid vaccine intravenously to produce fever. She was subsequently given 5,000,000 typhoid organisms intravenously and suffered a marked exacerbation of all her symptoms, both erythema and edema, with a fever of 102 F. for five successive days. Following this reaction her skin improved about 80 per cent of normal. The difficulty in respiration was alleviated and motion was only slightly limited.

DISCUSSION

This case of dermatomyositis is of special interest first because of the history of several attacks of diseases of supposedly streptococcic origin, i.e., scarlet fever, sore throat and sinusitis. On the subsequent laboratory study, a high titre of the patients serum to an autogenous hemolytic streptococcus of viridans strain was found. Sulfanilamide seemed to counteract the toxicity of the bacterial toxin only to a certain extent. When the drug was discontinued for several days, the patient immediately became extremely toxic and a septic type of fever was produced. Toward the end, none of the sulfonamide drugs seemed to alter the extreme toxemia.

The stricking resemblance of this patient to disseminated lupus erythematosus early in the disease and the high degree of mortality

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in both diseases suggests a similar etiology. Engman and Lane suggest that this clinical similarity of the two diseases may be due to an infectious or toxic agent or agents as yet unknown. Engman emphasized the point although the etiological agents might be closely related, the resultant infection could take one or two courses, either the lupus erythematosus way or the dermatomyositis way. O'Leary believes that in many cases only the data obtained at biopsy can be the means of distinguishing with accuracy between the two diseases.

Study of the muscles in fatal cases of lupus erythematosus revealed no pathologic alterations. Hazel[8] felt that a histamine-like substance was responsible for producing the destructive changes in the muscles. An attempt was made to desensitize our patient to histamine without success.

Treatment is comprised solely of empiric and symptomatic measures. General nursing care of the patient and a maintenance of a satisfactory nutritional state are essential. Concentrates of the vitamins should supplement the diet. Autogenous vaccines offer some encouragement if administered early but in the acute phase of the disease they are not practical. When dysphagia occurs, frequent liquid feedings and use of the nasal tube feedings may be necessary. The sulfonamides should be tried in all cases because of the infectious history in nearly all cases and in many streptococcic in type.

Fever produced by typhoid vaccine has given remissions in several cases and caused a temporary improvement in this case.

Prostigmin as a muscle stimulant was of no benefit to our patient.

CONCLUSIONS

1. A case of dermatomyositis with autopsy is reported.
2. Sulfonamides and fever therapy seem to be of the greatest value in the treatment.

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Cancer of the Breast*

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"Cancer is one of the most curable of diseases." To be curable, early diagnosis is essential, and prompt, proper, and adequate treatment is mandatory. Cancer is the most common cause of a definite lump in the breast of non-lactating women over 25 years of age. Each decade there is an increasing incidence of carcinoma of the breast in white civilized nulliparous women. Eleven per cent of all cancers occur in the breast, which is an external organ, and accessible to vision, palpation, and transillumination. One would expect a lump in the breast to be discovered early, investigated, receive treatment and be cured. Nevertheless the average woman of today who discovers a lump in her breast goes to her doctor only four weeks sooner than the women of the 1900's or about four to six months after discovering the lump. Consequently 50 per cent of carcinomas of the brest in large clinics already have axillary metastases.

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The breast is an organ which is never quiet. Even before birth it is active. From adolescence to senescence, the female breast is in a constant process of progression and regression. At puberty, during menses, and during pregnancy there is an active growth of the epithelial elements and a regression of the connective tissue elements. Epithelial cells grow, ducts grow and bud and branch until the breast is packed with epithelial lined ducts. This profuse epithelial hyperplasia pushes aside and necessitates a regression of the connective tissue. When lactation is interrupted the process is reversed and there is a regression of epithelial cells. Cloudy swelling, liquefaction, autolysis and degeneration follow and the interstitial tissue again grows. The breast never returns to the state of a virgin breast, but throughout life until the cessation of menses and senescence, this process of progression and regression is constantly taking place. If regression is not complete, small lumps, frequently painful, are present and so called

chronic mastitis develops. A duct may become blocked or walled off and a galactocele or cyst result. Again two or more cysts may rupture into one and a blue domed cyst result from the hemorrhage of rupture. As a consequence the various tumors of the breast develop, their type and kind depending on the predominating cell and the stage of progression or regression in which the tumor grows.

Whenever cells are given the urge to multiply, the cell growth is physiologically controlled but too frequently that control is lost and the cellular hyperplasia over shoots its mark, is beyond all control, and malignancy may follow.

The growth urge in the breast is constantly present and the cells of the breast can multiply at any time during their life cycle. If the cellular hyperplasia overruns its normal control during the stage of early progression a carcinoma simplex may result. If normal hyperplasia is surpassed during the stage of high differentiation an adeno carcinoma may develop. Again the whole breast may explosively become malignant in a few weeks and a highly malignant diffuse duct carcinoma may be discovered. The normal unrest of the cells of the breast is therefore admittedly a factor in this problem.

The nulliparous breast is more susceptible to malignant change for the nulliparous breast is the unused breast. Failure to nurse results in incomplete secretion and drainage, and incomplete physiological function. The incidence of carcinoma of the breast therefore increases with each decade in nulliparous civilized women. There are 109 breast carcinoma deaths per 100,000 in single women and 44 breast carcinoma deaths in married women.

The average doctor sees only two cases of carcinoma a year. Be that as it may, early diagnosis by the physician is paramount. He should always be aware of the possibility of malignancy and the steps that are necessary for an early diagnosis of carcinoma of the breast is almost inexcusable. The responsibility involves the patient and the physician. There should be no delay on the part of the physician in diagnosing a tumor of the breast; an external and easily examined organ. In a series of 158 cases of carcinoma of the breast in the New Haven Hospital the physician was responsible for diagnosis delay in 17.5 per cent and the patient and physician in 28 per cent. Why? As above stated, the average doctor sees but two cases of cancer a year, and is not on the alert . Lack of thorough examination is a large factor. Failure to appreciate the curability of prompt adequate treatment may explain the delay in definite diagnosis.

Preventing exposure of the female breast is a phase of a routine physical examination. Exposure of the breasts is avoided by the patient, prevented by the well trained nurse and neglected by the doctor. If and when the patient complains of a lump in her breast the breast examination is made, casually or thoroughly, depending upon the individual doctor.

Primarily we should discard the classical signs and symptoms of cancer of the breast. Fixation of the tumor, pigskin or orangepeel skin, retraction of the nipple, bleeding from the nipple, palpable lymph nodes in the axilla, anemia and weight loss are all signs of advanced malignancy. Waiting and watching for the foregoing signs and symptoms may be compared to waiting for the signs and symptoms of general peritonitis before diagnosing appendicitis. Routine, systematic examination of both breasts should be carried out. First, the patient being in the sitting posture with both breasts and anterior chest uncovered, the breasts should be inspected. Observe the comparative shape, contour, asymmetry, dimpling or skin retraction. What is the relative position of the nipple? Is there fixation of the tumor, visible abrasions, ulcerations, and is there infra or supra clavicular fullness? Palpation should then be thoroughly carried out, not grasping sections of the breasts between the thumb and fingers, which is misleading, but by placing the palmar surfaces of the fingers against the breast. The foregoing having been done the same procedure should be repeated with the patient lying recumbent. A small tumor missed in the erect posture may become obvious in the recumbent position. Palpating the axillae with the arms adducted permits deep axillary examination while again axillary nodes and subpectoral metastases may become apparent when the patients arms are extended over the head. Always examine both breasts as 5 per cent of breast cancers are bilateral or become bilateral, and Handleys triangle at the sternal zyphoid should not be overlooked.

A tumor located, transillumination is a definite help in differentiation. The normal breast transilluminates well, while lactating breasts and galactocele are totally opaque. Chronic mastitis is less translucent than the normal breast. A cyst containing clear fluid is translucent, maybe clear cut and well defined. A cyst containing blood will be opaque clear cut and well defined. However, it may be a haematoma, an intra cystic papilloma or a carcinoma. Solid tumors are not as translucent as fluids and less opaque than blood.

"Any tumor or lump in the breast is malignant until proven otherwise." Therefore the tumor found should never be biopsied,

but should be excised enbloc and a frozen or quick section made. The unnecessary loss of a breast is most unfortunate in any woman's life while incomplete diagnosis and the resultant inadequate treatment of a carcinomatous breast is a tragedy without comparison. Five thousand women die yearly of carcinoma of the breast. Theoretically this is unnecessary.

As before stated, when a lump or tumor is found in the breast, that lump is malignant until proven otherwise. The family history and particularly the breast history should be traced. Age is very important in the diagnosis of breast tumors.

Fibro ademenoma is one of the common benign tumors. It is a fibrous tumor, rounded, firm, freely movable, and transilluminates poorly. It occurs in young people in the 'teen age and may go on into the twenties. If not removed it may ultimately become a sarcoma. Sarcoma of the breast is always preceded by a tumor and that tumor is a fibro adenoma.

The second non malignant tumor to be considered is the cyst. Cysts rarely occur in women under 30. In Adair's series, cysts occurred between the ages of 30 and 52. They are, generally speaking, premenopausal, usually not solitary and are difficult diagnostic problems. The large cyst is encapsulated, freely movable, transilluminates in sharp outline and is non-adherent. Too frequently, however, what seems to be a solitary cyst is only a part of cystic disease of the breast and on section numerous minute cysts will be seen even microscopically. On microscopic examination chronic mastitis is associated with malignancy in 50 per cent of cases. Clinical diagnosis alone is therefore incomplete.

Localized mastitis must always be considered in early diagnosis of carcinoma of the breast. It is a most difficult differential problem. Within an area of localized mastitis there may be an early carcinoma. On the other hand the lumpy, shotty breasts of chronic diffuse mastitis infrequently become malignant.

Tuberculosis of the breast is a possibility and is always associated with a sinus (Adair). Syphilis of the breast in the form of gumma may be a rare confusing problem.

Traumatic fat necrosis is another problem which cannot be decided clinically with assurance. There is usually a history of trauma which frequently accompanies carcinoma. There is skin attachment and nipple retraction. The inflammatory signs are helpful but not diagnostic.

A haematoma following trauma may stimulate malignancy. Its progressive decrease in size, tenderness, associated with definite opacity on transillumination may rule out malignancy. On the other hand trauma to the breast may disrupt the equilibrium of a pre-cancerous lesion into active malignancy. Of clinically benign breast tumors, 11.2 per cent are malignant while 5 per cent of clinically malignant tumors are benign.

These and other benign lesions may become malignant or perhaps they were originally malignant. The only real evidence of cancer is the presence of living, growing, invading cells outside their normal boundaries. The average age incidence of carcinoma of the breast is 50. Anyone over 60 having a lump in the breast has a malignancy in 75 per cent of instances. However, this age incidence is in reality the end results of a process beginning years before and breast carcinoma is the most common cause of a lump in the breast of non lactating women over 25. Therefore, the greater frequency of mammary carcinoma in later life is of no diagnostic significance. By this same token, the infrequency of mammary carcinoma under 30, 9 per cent, is of no diagnostic significance.

Carcinoma originates at some minute point where it should be diagnosed before it invades or metastasizes. The growth spread is affected by the age of the patient, the presence of pregnancy or lactation and possible intercurrent disease such as diabetes mellitus.

A search should always be made for evidence of spread and metastases. The axillary space, infra and supra clavicular regions are routinely observed. The chest should be x-rayed, the spine examined and any pain or skeletal complaint investigated. In 423 autopsies following carcinoma of the breasts, 50 per cent had pleural involvement and 49.9 per cent showed lung involvement. Mammary carcinoma is the most common cause of bone metastases in women (26-74 per cent). The liver is the most frequently invaded organ and should be considered accordingly.

Prompt radical mastectomy is the treatment indicated following the microscopical diagnosis of malignancy. The most radical excision of the growth is alone productive of good results. Theoretically pre-operative irradiation has its place although breast cancers as a whole are radio resistant. Practically the necessary time loss of at least two months permits dissemination of the malignancy during this waiting period in addition to the increased surgical difficulty following irradiation. Pre-operative x-ray has not been used at the Mayo Clinic in nine years. Dr. Frank Lahey states, "We have not used pre-operative x-ray in our clinic." Adair says,

"To our mind this phase of this controversial problem of the value of pre-operative irradiation is definitely settled." Radical mastectomy is the treatment indicated and when radical mastectomy is designated it means fundamentally the Halstead operation. The tumor should occupy the center of the operative field regardless of the location of the tumor. Wide removal of skin and all the excised tissues should be removed in one block. Both pectoral muscles must be removed and unless the pectoralis minor is removed completely, adequate exposure of the axilla is hampered. The axillary contents are removed carefully but thoroughly as part of the complete block. An incomplete radical mastectomy is not a radical mastectomy.

When is carcinoma of the breast inoperable? When there is fixation of the mass to the ribs or sternum. Involvement of the supraclavicular nodes is evidence of spread beyond surgical control. Fixation of axillary nodes is a contraindication remembering that palpable axillary nodes may be inflammatory. The signs of acute fulminating disease contraindicate surgery and distant metastases make operability a false hope. Constitutional contraindications are of significance not to be neglected.

Irradiation of the ovaries should be done in all cases of inoperable and metastatic carcinoma when the patient has not passed the menopause.

To conclude this brief resume, the first statement is repeated—'Carcinoma is one of the most curable of diseases." Early diagnosis and prompt proper treatment is the only solution of this scourge on humanity. A most radical excision of the growth is alone productive of good results. X-ray and radium have their place as a phophylactic measure as post-operative irradiation, and in palliative administration. We must educate the patient. We cannot educate the patient unless we ourselves are persistently on the alert for the early and curable malignancy of the breast.

DISCUSSION

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Dr. Stanbro has given an up-to-date interpretation of the subject, "Carcinoma of the Breast." So far as I am concerned, I can think of no important points which he omitted. His line of thinking in general runs parallel to mine.

Early in his discussion he states that carcinoma of the breast is curable. There is just one way of curing this disease; that is, radical surgical removal. He makes the statement that 11 per cent of tumors that are benign clinically prove to be malignant after removal. This stimulates our feeling that any lump in the breast in a woman over 30 years of age may be serious.

He states that a biopsy should not be made. So far as I can remember I have never done a biopsy on the breast. By this I mean that I have never taken a section from a tumor and sent it to the laboratory for microscopic examination. I always enucleate the tumor, cutting widely around it, and sent the entire tumor to the laboratory.

I believe very much in his recommended method of examination; that is, as to posture. Any examination of the breast is not complete until the patient has been in at least a sitting and a lying position. Sometimes I am unable to find the tumor when the patient is sitting on the examining table, but when the patient lies down the skin will be bulging sufficiently that its position can be seen from across the room.

Dr. Stanbro has discussed the place of x-ray therapy in this disease and it seems to me it is not necessary to further discuss this subject. I note in the Lahey Clinic volume which was recently published that in discussing this subject they state they have never used x-ray therapy there, and for that reason are not prepared to discuss it. I am speaking of pre-operative irradiation. After operation is completed for a period of ten days to two weeks I am convinced that x-ray therapy should be used for the purpose of retarding the growth should any be left in the field. I believe it does retard the growth and has a definite beneficial result. At least it causes a delayed action and perhaps we may get an occasional cure that we would not get otherwise.

I was interested in the statement made in the Lahey Clinic volume that they figure the five-year cures only as survivals. In the checkup periods they speak of three, five and seven year survivals instead of the older way of three, five and seven year cures. This, I believe, is a more suitable way of speaking of the condition.

There is one important point that Dr. Stanbro made which I believe is not generally understood and that is that carcinoma is more frequent in nulliparous women than in women who have had pregnancies. I have the feeling that many physicians have indulged sense of security when the old maid school teacher, or the clerk in the dry goods store who has never had a pregnancy appeared with a tumor in the breast. According to statistics which Dr. Stanbro quoted this feeling was not justified.

The fact is that we should be more con-

cerned when the single woman of the third or fourth decade presents herself with a tumor of the breast. Because the breast has not functioned as a lactating breast or has not been physiologically active, seems to pave the way for malignant growth.

I thank you very kindly for an opportunity to discuss this paper.

The Child in the War Time Local Health Program*

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Attention to child health is recognized in general terms as an integral and important part of any well planned local health program. However, the shift of local health activities into wartime operation has in many units been accomplished by sufficient clashing of gears to obscure or confuse the precise place this function should occupy in the accelerated or decelerated program. This change in pace is alluded to advisedly, since Health Units in centers of war production or military contonments are confronted with a sudden influx of health problems whereas the districts not involved in large war enterprises find themselves faced with need for retrenchment occasioned by loss of departmental personnel and shrinkage of population. Obviously, the greatest adjustment needs be made in the former and it is with the children in communities feeling the impact of war activity that we are primarily concerned. We shall discuss the problem from the standpoint of a local health officer faced with such an adaption.

The attitude of the local health officer toward the child health phase of his work is one of respect and attention. The place of school children, pre-school children, and immunization procedures in a normal health department set up is well known and has been reasonably clearly defined in all Public Health texts. Its importance as an entering wedge into community cooperation has never been under-emphasized. Children, as a group, present a particularly significant base on which to build a general health program. First, because of all groups, they are the most susceptible to control, particularly through the medium of the schools. Second, they present a receptive and more or less organized target for educational projects and third, the results of health efforts are more readily perceptible and an increment of work in this group is apt to produce the most measurable results. What, if any, revision of the health officer's attitude should take place in the altered situation?

It is well, as a starting point, to appraise, dispassionately, the status of the child in wartime. His "rights" like those of his elders, of necessity suffer curtailment and a transition from the ultimately ideal to the immediately practical. It is these latter practicalities that may be lost sight of in the face of more pressing needs. First, the fact remains that, although the physician health officer may view the child unemotionally, his parents can't and possibly should not. For this reason, the preventable illness, however slight, of a child constitutes a ponderable cause of lost man-hours on the part of his parents' war effort and, at the least, results in reduced efficiency. A worker with a sick child at home is only half a worker. Secondly, war effort is calling an increasing number of mothers away from home and is depriving the child of teachers, nurses, and other sources of care and security. Thirdly, (to be mentioned at the risk of being reviled as a dreamer) the place of todays child in the post-war world is one of unquestioned responsibility. Nothing is more short sighted than to talk of "winning the peace" as an inheritance without giving like consideration to insuring that the heirs will be capable of receiving it.

An illustration of the numerical status of children in one type of war community may be drawn from the population figures in Mayes County, site of the Oklahoma Ordnance Works, an active war industry employing some 6,000 workers which suddenly burgeoned in the midst of a quiet and predominantly agricultural section of the state. This area has absorbed the initial impact of thousands of construction workers engaged in building the plant and, for the three months prior to the date of these figures, had seen a shift from construction to operations work. This has meant a gradually diminishing pop-

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ulation from the construction peak and also a growing predominance of a relatively more stable and permanent population, who, unlike the migratory construction workers, tend to bring their families and function as a component of the community.

In the 1940 census, the population of the county was 21,668. In December 1942, the estimated population was 25,336. This included 6,276 school children and 2,658 of preschool age, a total of 8,934 children representing 35.3 per cent of the entire population. The bulk of the increase was absorbed by three towns adjacent to the plant. A further in-migration of operations personnel is anticipated with the completion of several large housing projects. An inkling as to the effect of this movement on the child population may be gained from the results of a questionnaire answered by a one-fourth sample of the Oklahoma Ordnance Works employees in which the ratio of preschool to school children in the families was found to be 1:1. This increase in the younger children might have been predicted from the fact that this productive labor element represents a relatively young group of adults. A similar trend might be expected wherever in-migration for war work is taking place. It must be pointed out that these figures are obtained by estimates and are accurate only as cross-sectional impressions of a group in a state of flux.

For these reasons, as soon as the urgent problems of environmental sanitation and emergency protection of the war-swollen population are brought under control, the child health program should occupy the paramount status. Its only possible rival (and this only in certain types of war areas) is the venereal disease control program.

An asset which the Health Officer has available in creating a constructive program is one which may also be a source of confusion unless firmly controlled. By this, I mean the multitude of agencies at the national, state and local level, which are interested in the whole problem of children or in its special phases. Examples of these are the Children's Bureau, Crippled Childrens Commission, Infantile Paralysis Commission, State Health Department, 4-H Clubs, Womens Clubs, Schools and Child Welfare Agencies. Some of these work through the local health department while others carry on their activities independently. If carefully coordinated in a county, the sum of these forces constitutes a powerful influence. Uncoordinated, there is usually ample opportunity for duplication and waste of effort. Whether the health department should take the lead in this coordination or merely serve as a cooperating agency is a question which is obviously dependent on local conditions and involves, usually, the unregimentable factor of personality.

Probably the greatest single hurdle which is encountered in establishing a satisfactory child health program in a war-active community is the intense pre-occupation of the public, both as individuals and as a community, with the actual business of war production. Added to this is the inevitable concentration of effort in exploitation of newly found opportunities for launching and enlarging gainful commercial enterprises. This is especially conspicuous in areas frequented by military personnel. This trend often limits community support of a health program to lip service alone. Add to this the current transportation difficulties and the burden of overworked teachers, nurses, and welfare workers and the obstacle becomes more impressive. Here again, the adjustment lands squarely on the Health Officer's shoulders and needs to be made on an individual community level. As usual, the mothers in the community constitute the most available avenue of approach.

An effective child health program must of necessity be a long range program if results are to be commensurate with the efforts expended. This must be reconciled to the need for a certain volume of emergency activity involving the children of transients. Here an organization of reporting and recording on the state or national level which provides for transfer of children from clinic to clinic in a manner analogous to the present handling of venereal disease patients would perhaps be of value. This is particularly applicable to children in the process of being immunized against contagious diseases.

With these normal and abnormal factors in mind it is well to consider a broad outline of what might be deemed a reasonable

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wartime program for a county. This resolves itself under four general categories, listed in order of what might be their "emergency" significance.

PREVENTION OF CONTAGION

Concomitant with environmental sanitation, a massive immunization program is essential to minimize the increased possibilities of epidemics. Initially, this may be aimed particularly at the migratory group, but should be continued through the more stable community groups. Intensification of routine reporting and quarantine functions of the department is likewise called for. Additional support for this phase of the program is often available through the authorities responsible for the war production or military establishment concerned.

NUTRITION

The nationwide interest in nutrition which now exists provides an opportunity for the health officer to step beyond the usual "cod liver oil and orange juice" limitations of his efforts in this important field. Here the above mentioned function of cooperating with other agencies is especially applicable. In addition to assuring the provision of nourishing foods to children, it is also within the province of the Health Department to aid in securing a safe food supply. The logical starting point here seems to be in the field of milk and water sanitation.

HEALTH EDUCATION

Because of the preoccupation of adult groups with the more immediate business of war, the educational phases of a health department must be directed in increasing volume towards the child. Here the obstacle of overloaded school facilities looms large. The use of recreational and extra-school programs sponsored by 4-H clubs, Scouts ,and such organizations provides a means of partially bridging this gap. Even so, it is here that a wartime program is in the greatest danger of frustration. Obligatory inclusion of a workable health education scheme in school curricula is needed.

FINDING AND CORRECTING DEFECTS

This important category is mentioned last for two reasons. First, it is the most susceptible to postponement in the face of an emergency and second, only too often this comprises almost the sole child health activity of a local health department. The increased press of activity in a wartime situation magnifies the need for the Health Officer carefully to appraise the results of previous efforts in this category. He may then decide for himself whether the situation in his county lends itself better to wholesale examinations of children with the view to stimulating the maximum number of corrections or whether it is more productive to concentrate on the groups of individuals most badly in need of attention and most likely to get it if sufficient energy is expended. On the whole, even in emergency situations, it seems better to concentrate on the child as a individual rather than to attempt wholesale methods, impressive in the annual report but questionable as to actual results.

A review of the four point program shows it to be applicable in many instances to the Health Program as a whole, including both children and adults. A fifth category is worthy of emphasis in the adult field and should be mentioned because of its ramifications in the sphere of child hygiene. This is the control of "Social Diseases" which may include venereal disease, tuberculosis and malaria.

These thoughts are presented not as an answer to the problem of child health in war time, but rather as a stimulus to more constructive attempts to integrate a predominant peace time pursuit into a wartime life. Most of our counties faced with the problem of boom conditions are just now approaching the status where the immediate control measures are under way and such a reorganization of thinking and effort may constitute the next step in the program. Indeed, changing trends may invalidate most of these preliminary impressions and call for more drastic revisions of policy. One fact, however, seems clear—that the normal local health program must be altered to fit the tempo of today's changes.

DISCUSSION

C. W. ARRENDELL, M.D.
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A careful study of Dr. Brooks' essay on "The Child in the Local War-Time Health Program" reveals a complete outline for a Public Health Program which is both timely and practical.

Dr. Brooks points out that children comprise more than one-third of the total population in a typical war industry area in Northeastern Oklahoma. Health officers as well as physicians in civilian practice should realize the importance of this figure and should be gratified to recognize the significance of schools as a medium of contact and control. Parents, particularly mothers, tend to cooperate better and to give more attention to the welfare of their children than to other phases of public health endeavors. Thus the schools, with the aid of teachers, nurses, and Parent-Teachers' Associations serve as an entering wedge into general community of "Environmental sanitation and emergency protection."

Many mothers are engaged at present in industrial work, but they nevertheless seek intelligent advice and help in the care of

their children. Here physicians in civilian practice must cooperate with the health officer to obtain the optimum in physical and moral development.

Some of the difficulties which the health officer may encounter in establishing a child-health program are set forth:

First: A large per cent of the population in industrial areas is transient and therefore lacks civic pride.

Second: Crowded living conditions and transportation problems retard the program.

Third: Both industrial workers and the citizen population are over-burdened with additional work and responsibilities.

Dr. Brooks makes no mention of a fourth obstacle that is probably the most difficult with which he has to deal. Namely, the attitude of county medical organization as well as that of physicians in private practice, is often not only one of indifference but amounts sometimes to absolute rejection.

The four-point program suggested by Dr. Brooks as a "Reasonable war-time health program' 'is not only very practical, but may be used as the basis of the health program as a whole. His program consists of:

1. Prevention of contagion.
2. Nutrition.
3. Health education.
4. Finding and correcting defects.

A program for the prevention of contagious and infectious diseases in itself would require a wide application of knowledge and experience pertaining to sanitation in general. Nutrition and Health education provide the Health Officer an opportunity for teaching and stabilizing the various and confusing concepts that universally exist.

The finding of defects requires much time and great tact, especially in organizing the community facilities to better carry on this project. After defects have been found, a follow-up to explain and urge correction is extremely important. I would emphasize the addition of the control of Social Diseases to the Four-Point program, as it is so often an integral part of child hygiene.

Since the personality and ability of health officers varies and since the requirements of communities differ, the exact mode of procedure may follow only the broad outline as set forth. However, Dr. Brooks would have the health officer accept the entire responsibility of bringing into relative harmony all the factors necessary for the effective consummation of the program.

The RH Factor Its Relation to Erythroblastosis Foetalis and Transfusion Accidents*

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TULSA, OKLAHOMA

This paper is presented as a review of some of the recent literature on the Rh Factor of human blood, showing its relationship to the cause of Erythroblastosis Foetalis and its bearing on some of the heretofore unexplained intra-group transfusion reactions—with such unhappy end results.

In 1940, Landsteiner and Wiener[1] reported on an agglutinin developed in rabbits by injecting blood from the Macacus Rhesus monkey. When tested with human bloods, this agglutinin demonstrated the presence of a new substance in human red blood cells—called the Rh Factor (Rhesus Factor). About 86 per cent of human bloods contain this factor (Rh-Positive) and 14 per cent do not (Rh-Negative).

Present knowledge[2] of the Rh Factor can be summed up as follows:

1. It is an antigenic substance in human blood cells similar in some ways to other previously discovered antigenic factors; the most important of which are those known as A, B, M, and N.

2. It is inherited as a Mendelian dominant, as are the others.

3. It occurs only in red blood cells, resembling in this respect the factors M and N, but differing from A and B, which occur in the tissues and secretions of some persons.

4. There are no normal agglutinins against the Rh Factor in man, again resembling in this respect the factors M and N, while such agglutions are present normally against A and B. On the other hand—when blood containing the Rh Factor (Rh-Positive) is introduced into a person without it, agglutinins may develop against it; while they never develop blood containing the M and N Factors is injected into persons without these factors in their blood.

5. The Rh Factor has isoimmunizing ability while M and N factors lack it . That is

*Read before the Annual Meeting held in Oklahoma City, May 11-12, 1943.

why the M and N factors are of no significance in blood transfusions.

Soon after the discovery of the Rh Factor, Wiener and Peters studied the blood of patients who had hemolytic reactions after one or more previous uneventful transfusions of blood of the correct group. The serums of these patients contained atypical isoagglutinins which clumped blood with the Rh Factor. These serums behaved in a like manner as did the serums of the rabbits immunized with monkey blood. The blood of these patients did not contain the Rh Factor. They explained the presence of the atypical agglutinins in the patients by assuming that Rh-Positive blood was given to them during one or several transfusions which they had received previously. The fact that they did not possess the Rh Factor in their own blood made it possible for the injected Rh-Positive blood to act as an antigen and to stimulate production of anti-Rh agglutinins. After these agglutinins developed, Rh-Positive blood was not suitable for these patients, even if the donors belonged to the identical blood groups. The administration of Rh-Positive blood was followed by a hemolytic reaction .

It was found that patients manifesting hemolytic reactions following one or several previous uneventful transfusion of blood of the correct group, were, as a rule, Rh-Negative and that some of them had anti-Rh agglutinins in their blood, that the donors were Rh-Positive, and that Rh-Negative blood could be subsequently administered without untoward reactions.

The same mechanism was found to be responsible for reactions after first transfusions given to pregnant women.

Here the development of the negative agglutinins (anti-Rh) was explained by the presence of the Rh Factor in the blood of the fetus, to whom it was transmitted by the father and by its passage through the placenta to the mother, who was thus immunized during pregnancy. Levine[3], et al, first suggested that erythroblastosis foetalis may be due to such a mechanism.

Here the cycle of events goes further than the production of anti-Rh agglutinins in the mother. These anti-Rh agglutinins formed in the blood of the mother pass through the placenta from the mother to the fetus; enter the fetal circulation and by their continued action on the Rh-Positive fetal red blood cells, produce erythroblastosis foetalis. The correctness of this hypothesis is based on the assumption of, at least, four conditions;

1. The father must have the Rh Factor in his blood, in order to trasmit it to the fetus.
2. The fetus must have the inherited Rh factor in his blood.
3. The mother must lack the Rh Factor in her blood in order to develop the anti-Rh agglutinins.
4. There must be a free exchange of antigenic substances and of antibodies through the placenta from the fetus to mother and vice versa.

The fulfiliment of the fourth condition can be taken for granted—the passage of protein substances from the fetus to the mother and of antibodies from the mother to fetus has been satisfactorily demonstrated.

Levine tested the first three conditions by a study of the blood of 153 mothers of infants with erythroblastosis, of whom only 7 per cent were Rh-Positive and 93 per cent Rh-Negative. This is almost the reverse from the findings of 1035 controls of random population, in which 86 per cent were Rh-Positive, and 14 per cent Rh-Negative. All husbands were Rh-Positive and 99 per cent of all the erythroblastosis infants were Rh-Positive. The absence of the Rh Factor in one infant with erythroblastosis and the presence of the Rh Factor in 8 per cent of mothers of erythroblastosis infants, indicated that there are other factors involved in the pathogenesis of erythroblastosis besides the Rh Factor, but these facts do not disprove the concept of isommunization as a cause of the disease.

Three types of Erythroblastosis Foetalis[4] are generally recognized, namely:

1. Hemolytic anemia, which is the mildest form.
2. Icterus gravis, which is more serious.
3. Universal fetal hydrops, which is seldom compatible with independent life.

These infants are often lethargic and exhausted, although early they may appear essentially normal. The symptoms may develop rapidly, depending on the rate of blood destruction. Petechial hemorrhages may occur; the heart is often enlarged; the pulse rapid and weak; liver and spleen are enlarged in most cases. Deposition of blood pigment in localized areas of the brain may result in a nuclear jaundice, causing death in the first few days of life, or symptoms may appear later.

Henderson[5] has reported three cases which seem to belong to a fourth type not previously described, in which hydramnios is common and intrauterine death occurs some time befor delivery.

Fetuses of this type show little or no edema; are severely macerated, and have diffuse hepatic cirrhosis and splenomegaly, This new type is the most severe manifestation of the disease, with the possible exception of cases of earlier intra-uterine death resulting in miscarriage.

Degenerative changes in the Parenchymal

cells of the liver, some times amounting to actual necrosis, are a common feature in icterus gravis and hydrops foetalis. Cirrhosis also is common in infants with icterus gravis who die after a few weeks of life, but is only occasionally seen when death occurs earlier.

In two infants who died of icterus gravis within two days of birth, a fine diffuse intercellular cirrhosis was noted, and portal cirrhosis was observed in a few cases.

The pronounced degree of hepatic cirrhosis in the severely macerated fetuses proves that erythroblastosis may run a long intrauterine course. This type of disease bears a close superficial resemblance to congenital syphilis, but closer examination of the fetus and placenta renders differentiation easy.

It is regrettable that such a common fetal and neo-natal disease as erythroblastosis is not generally recognized. The more severe types are still usually regarded as congenital syphilis, and the unfortunate mothers are condemed as syphilitics, despite negative serological reactions.

The Rh Factor and the isoimmunization theory has some very practical applications particularly as regards transfusions. Experience reveals that the Rh Factor is a good antigen in Rh-Negative individuals, i.e., either by repeated transfusions or in Rh-Negative women who may be immunized by the Rh-Positive fetus, and actually, pregnancy provides a far better antigen sitmulus than repeated transfusions do.

For the prevention of these reactions, the most important single measure is the selection of Rh-Negative donors for Rh-Negative patients. Special care should be exercised in transfusing women who have recently delivered erythroblastic infants, unexplained dead fetuses, past history of stillborns, neonatal deaths and transfusion reactions. Particularly in emergencies involving the recently delivered woman with a dead fetus, it is far safer to use pooled plasma, rather than blood transfusion unless the bloods can be thoroughly tested.

Once an Rh-Negative donor is selected for an Rh-Negative recipient, a direct cross matching test must be carried out. It is assumed, of course, that the blood groups of donor and patient are compatible. It is recommended that the patient's serum be incubated with donor's cell suspension at 37° for fifteen to thirty minutes, and that the mixture then be centrifuged at low speed and the sediment re-suspended for the final reading.

It is well known that many afflicted infants with severe anemia recover following numerous blood transfusions. There is some theoretic basis for the suggestion that these infants preferably receive the blood of Rh-Negative donors. Obviously the infants own Rh-Positive, or any other Rh-Positive blood is subject to the hemolytic process which, for one or another reasons still continues in the early neo-natal period. In a small number of cases it was observed for longer intervals than Rh-Positive blood. Actually, the hemoglobin and red blood cells are maintained at higher levels and at the same time there is a remarkable improvement in the clinical condition of the infant. The anti-Rh agglutinins which might be still present in the baby's serum would hemolyze the Rh-Positive cells the baby recieved by transfusion. In at least one instance the use of mother's blood (of compatible blood group) which contained potent anti-Rh aggulutinins resulted in hemolysis of the infant's blood as evidenced by a rise in temperature, increased jaundice and hemoglobinuria.

A third example of the practical application of this principle is in the Rh-Negative patient (any Rh-Negative patient—about 14 per cent of the population) who must receive repeated transfusions over a period of weeks or months. Such patient must be protected from possible isoimmunization through receiving blood repeatedly from Rh-Positive donors. Any early transfusion might stimulate anti-Rh agglutinins and these in turn would hemolyze Rh-Positive blood cells given the patient in subsequent transfusions. It is probable that these anti-Rh agglutinins are responsible for about 90 per cent of all intragroup transfusion accidents after repeated transfusions, or in pregnancy at the first transfusion.

From these findings, one may conclude that the cause of most cases of erythroblastosis foetalis can be explained by the isoimmunization of the mother by the Rh-Positive

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fetus, and that 90 per cent of the transfusion accidents in the heretofore compatible group may be avoided by the practical application of the isoimmunizing theory.

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A SALUTE TO PHYSICIANS IN WAR-TIME*

In this world struggle for the freedom and happiness of mankind there are many factors that are having a part in bringing victory to the Allies—the farmer, the factory worker, the engineer, the soldier, the sailor, the marine and the nurse, the administrator, the transporter of men and material, the morale builder and the news reporter.

Without detracting one iota from the glory that all these and others are entitled to, this is a salute to the physicians of America, for their names should be placed high on the war-time service roll of honor.

Among the 130 million citizens of the United States, there are around 150,000 physicians who are battling disease, repairing human damage and saving life. Today these physicians are meeting their responsibilities to the public as never before they have gone out in large numbers as a part of our military forces to the four corners of the world. They are doing their job in the front lines, in the air, on the sea, under the water and on the land. They are meeting the medical problems of the frozen north and of the tropical jungle. They are working relentlessly at the casualty stations, in the hospitals and in the military camps. At home, besides their usual work, they are filling in the gaps made by their comrades who have joined the military forces. These physicians are crowding the production of new doctors; they are in public health work, in industry; they are manning the reception hospitals; they are guiding medical research; they are general practitioners, and specialists. They are community servants of the highest order.

These physicians are carrying on successfully with whatever equipment and supplies are at hand. They are applying the new knowledge in medicine with astonishing results. The hours of service of the physician are limited only by his strength to carry on. Many of these physicians are young, catapulted into situations that involve grave responsibilities; others are at an age when they deserve a reduction in their professional load, but they are all carrying on in a fashion that brings pride and joy to everyone.

These professional men and women are doing a grand job, from the home front to the outposts of this world conflict. They are keeping our fighting forces up to par, salvaging the injured, and staving off epidemics. They are saving life and preserving mental strength.

Again, we salute them!

*Bulletin of Lederle Laboratories. Volume XI, No. 1, November, 1943. Page 3.

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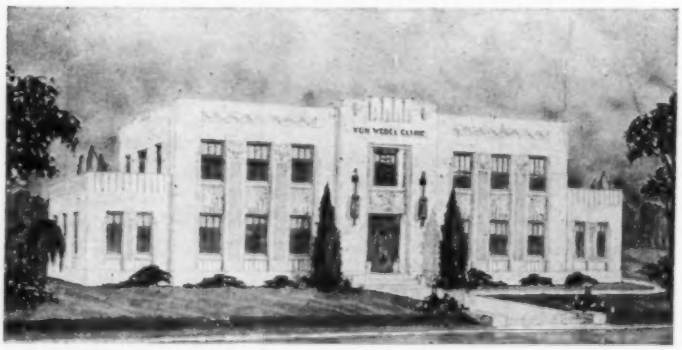

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• THE PRESIDENT'S PAGE •

The annual meeting of The Oklahoma State Medical Association will be held in Tulsa, April 24-26, at the Mayo Hotel. The exhibit space was all sold a few days after announcement of the meeting date was made. This shows the interest that the pharmaceutical firms, the medical book publishers, the supply houses and others have in our Association and in the medical profession generally. Their interest is not all selfish—they are genuinely our friends and necessary partners in our duty to best serve the health needs of our people. Take time enough to adequately inspect the exhibits of these friends of ours and to become acquainted with the representatives of our exhibitors.

The scientific program is nearly complete at this writing, and promises to be an outstanding one. So many of us are now i terested in learning more of industrial medicine, and more of tropical diseases which may concern us in the post-war era. These subjects may be fully discussed at this meeting.

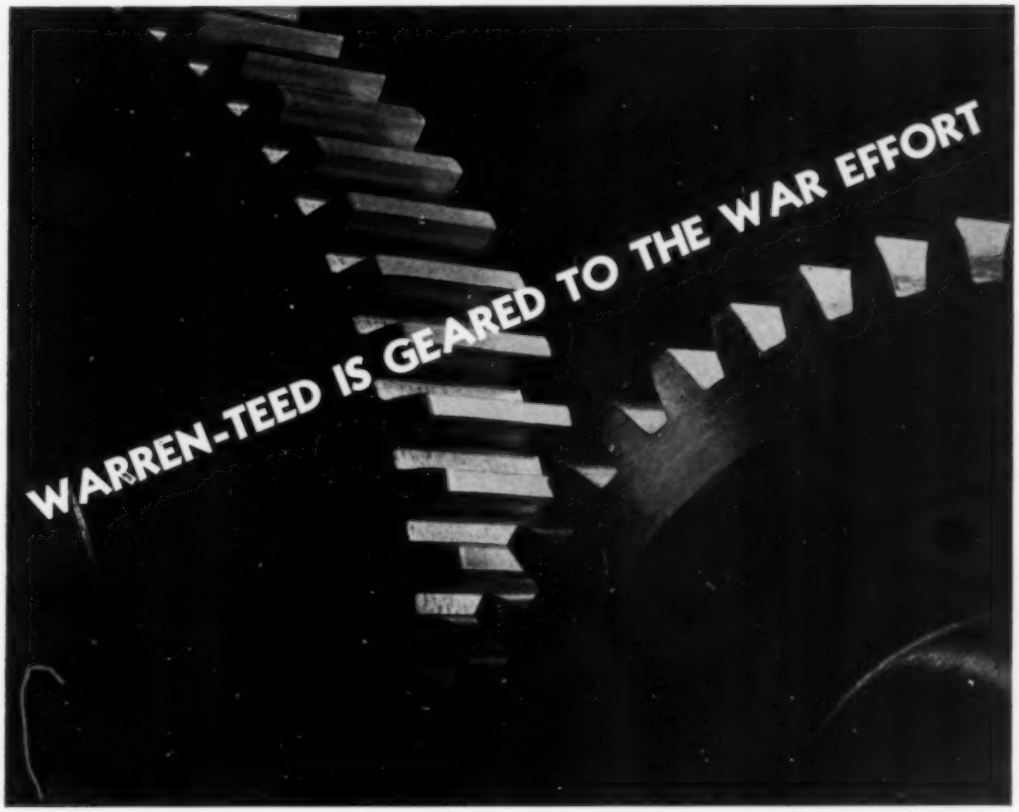
The Tulsa County Medical Society is proud to act as host to our Association and is planning to make your visit a personal pleasure as well as scientifically beneficial. Its offices, including a medical library worth c·ossing the State to see, will be open for your inspection. The hospitals of the city will be more than pleased to have you visit them. Those interested in the recent epidemic of acute anterior poliomyelitis may inspect the facilities used to combat this malady in the acute stage.

To those of you who are close to physicians in the Armed Forces, please extend the sincere desire of our Association that they attend as guests. Many of these men are members of other state associations but would welcome the opportunity of being with us.

We all have a duty to attend this Convention—a duty to ourselves, our patients and to our members in the Armed Forces who expect us to keep intact, until they return, the practice of medicine as they knew it.

James Stevenson

President.



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EDITORIALS

A GOOD EXAMPLE: GOVERNMENT MEDICINE A FAILURE

Since it is the editorial policy of this Journal to oppose government control of medicine to the last ditch, it seems fitting that we should call attention to the government's failure in one particular field of medical management. This is an exceedingly sad story not only because of much unnecessary suffering, with morbidity and mortality rates excessively high when compared with private management, but because the free movement of the patient, under the rules and regulations, created centers of infection which never should have existed, thus greatly increasing the incidence of disease and causing untold suffering and sorrow. Though the spiritual and physical values greatly outweigh all other considerations, the financial loss to the tax-payers and private individuals is stupendous. We refer to the tuberculous veterans of World War No. I who were provided for by the government through the Veterans' Bureau, later the Veterans' Administration.

Good doctors and every facility for adequate care plus generous pensions were made available. But as often happens, good intentions were thwarted because of the complicated set-up with varied interests and divided authority. Instead of a simple, effective partnership with mutual understanding and a vital spirit of cooperation which tends to hold the most thoughtless and unruly in line, there was a lack of authority on the part of physicians and administrators which, coupled with the patients freedom to go and come at will, often created a spirit of antagonism.

No doubt everyone connected with the Veterans' Administration wanted to do as much as possible for the tuberculous veterans. The laws, rules and regulations governing the care of these veterans have made proper discipline and cooperation virtually impossible; the provisions for pensions and payments for home care often causes the patient to consider it financially advantgeous to turn to home no matter how adequate the institutional care provided by the government may be.

In the December issue of The American Journal of Public Health[1], Louis I. Dublin, has presented this subject with convincing authority. We quote his figures in order that the true situation may be clearly understood.

"In spite of the extraordinary development of the services for tuberculous veterans, the experience of the veterans' hospitals has been unfavorable. Thus, in 1942, of the 9,854 cases discharged from these hospitals, only 1.9 per cent were designated 'arrested' at discharge; only 0.3 per cent 'apparently arrested,' and only 0.8 per cent 'quiescent.' If we combine these three categories, the fact emerges that only 3 per cent of the patients discharged during the year were medically rehabilitated. The remainder of the cases were discharged as 'condition improved' 32.7 per cent; 'condition unimproved' 28.9 per cent; 'dead' 19.5 per cent; and 'condition not stated' 16.0 per cent. It is clear that the vast majority of the patients discharged were not yet ready to be released to civilian life. The so-called 'improved' cases represent, for the most part, patients with unstable lesions. As a matter of fact, a very large proportion of them left without authorization or consent. Thus, the Veterans' Administration itself classified the hospitalization of 58 per cent of the cases as 'incomplete'. The 1942 figures on condition at discharge from the Veterans' hospitals are rather typical, somewhat worse but not greatly different from those of earlier years. At no time since 1929, when the present type of report of the Veterans' Administration began, has the total for the 'arrested', 'apparently arrested' and 'quiescent' reached 6 per cent.

"Admittedly, one cannot make exact comparisons among various sanatoria as to results of treatment on the basis of crude figures of this type. This is particularly true now, for with the passage of the years, the usual case admitted to the veterans' hospitals is of the chronic type common among middle aged and older persons. Thus, of recent admissions, only 4 per cent were 'incipient' cases, 22 per cent were 'moderately advanced', and 74 per cent were 'far advanced'. With all due allowance for this fact, there is a painful contrast between these recent figures (as well as those of earlier years) and the results obtained in well managed state, municipal, and private sanatoria. Thus, in a country-wide survey of tuberculosis hospitals and sanatoria in the United States during 1933-1934, made by the American Medical Association, patients with tuberculosis 'arrested', 'apparently arrested', or 'quiescent' on discharge, accounted for 29 per cent of the total discharged. A survey of discharges from the Michigan State sanatoria from 1930 to 1934, also showed a high proportion of cases in these three categories—61 per cent of the total discharged. The experience of the Mount McGregor Sanatorium of the Metropolitan Life Insurance Company for males discharged between 1919 and 1936, and excluding incipient cases, showed that 48 per cent, or practically half of the cases, were 'arrested', 'apparently arrested', or 'quiescent' on discharge; and even for the cases far advanced on admission, this proportion was 34 per cent."

Dr. Dublin points out the fact that legislators and others interested in the welfare of the veterans were not apprised of the fundamental requirements for effective management and did not provide for the necessary hospital restrictions but permitted them to make their own decisions regardless of medical advice. It is stated that there are cases on record showing 24 different admissions for institutional care and that 6 to 8 admissions of the same patient are common. This could not happen in any well managed institution with the proper patient-doctor relationship.

Note that the American Medical Association's country-wide survey, including veteran hospitals showed a total for arrested, apparently arrested and quiescent approximately five times that of the highest figure for the duration of the Veterans' Administration. Certain private and state institutions show percentages which more than double the general average reported by the American Medical Association.

Obviously the record would be better if the tuberculous veterans of World War No. 1 had returned to their family physicians and followed the usual channels for care through local agencies, private, county and state sanatoria.

1. Dublin, Louis I.: Function of the Health Officer in the Control of Tuberculosis Among Veterans. Amer. Jour. Public Health, Vol. 33, No. 12, December, 1943.

NOW IS THE TIME

Repeatedly in these columns doctors have been urged not only to write to their representatives protesting the Wagner-Murray-Dingell Bill but to induce their patients and their friends to do the same. This is most important at this time because the political ear at the base of administrative antennae now has a wide range of receptivity. Waves of unrest are being picked up all along the way from the grass roots up to the realm of big business. The law makers are ready to respond to public opinion.

American individualism which was born in '76 and safeguarded by the American Constitution is now accorded an opportunity to retrieve some of its recent losses. If our patients and friends are not concerned about the present trend toward the socialization of medicine, it may be our fault. The layman must depend upon available knowledge for the formulation of his opinion. If we have not presented the benefits of American Medicine in an impressive manner, he may find it nec-

essary to depend upon the one-sided publicity which has been coming out of Washington for the past ten years. It is readily admitted that no profession is perfect and that medicine, with all its virtues, cannot stand a sustained inquisition with its alleged imperfections paraded before the public year after year with never a word of credit or commendation for its good qualities.

How can we expect the people to know that, in spite of its faults, American Medicine is the best in the world. Idly we have sat with folded hands and permitted an unfavorable psychological build-up through unfavorable publicity from Washington in anticipation of political control of medicine. Perhaps it is not too late to tell the people what medicine has done for them and to show them what political medicine will mean in the sacrifice of freedom, in the inferior quality of medical care and the relative increase in cost.

If we are forced to accept some form of socialized medicine it will not be because the people are dumb, but because they are not informed as to the relative value of what Arthur C. Jacobs has designated as "medical humanism and the new medical collectivism". If we do not inform our people and fight for their freedom we may count on medical bondage which is bad for the doctor but worse for the patient.

Medical Collectivism means coersive cooperation. Medical humanism means voluntary cooperation with spiritual values which thrive only in an atmosphere of free initiative. This is still the land of the Pilgrim's Pride; the land where our fathers died; we still love its rocks and rills, its woods and templed hills; it must continue to be our sweet land of liberty. With all our might, let us hold high the torch of freedom's holy light. Now is the time.

WE WANT OPPORTUNITY—NOT FREEDOM FROM WANT

Though this discussion is not strictly medical, we must admit that it is within the doctor's province to consider the spiritual and economic values of life. While the average doctor is willing to do and die for his country it is natural for him to stop and reason why, when he hears so much about proposed social legislation, apparently designed to discourage initiative, to destroy individual industry and thus to threaten personal integrity.

Are we planning to bring our hearty American stock to a state of impotency through governmental paternalism; are we forgetting the principles of evolution, which include the primitive urge for individuality, growth and development through instinctive effort? Let us resolve that in our America, man-made slavery in the guise of administrative benefactions shall not replace our God-given freedom.

The following story from *Christ in the Camp*[1] by J. William Jones, who followed the fortunes of the Army of Northern Virginia from Harper's Ferry in '61 to Appomattox Court House in '65, as a private soldier and as Lee's famous chaplain, supplies a striking illustration of what we want. "In the summer of 1865, I was traveling one day along a country road in Virginia, when I saw a young man plowing in the field, guiding the plow with one hand, while an empty sleeve hung at his side . . . And so I said to the friend who was with me: 'We must stop. I must speak to that young man.' . . . I knew his history. Raised in the lap of luxury he had resisted its temptations, and when the war broke out he was about to bear off the highest honors of one of our colleges, and seemed destined to shine in his chosen profession, for which his tastes and talents fitted him. He was one of the first to step to the front when Virginia called on her sons to rally to her defense, and was one of the best of her noble soldiers.

"To see him thus, then, his hopes blighted, his fortune wrecked, and his body maimed for life, deeply touched my heart, and my words of greeting and sympathy were right warm. I shall never forget how the noble fellow, straightening himself up, replied, with a proud smile: 'Oh, Brother Jones, that is all right. *I thank God that I have one arm left and an opportunity to use it for the support of those I love*'."

No matter what we suffer, God grant that we may come out of this war with the will to work and the "opportunity to use it for the support of our loved ones." If the lawmakers of our America do anything to stifle this will or to rob us of opportunity, may they be prepared for the deepest pit in Inferno where Dante placed the designing sinners of Florence.

1. Jones, J. William: Christ In The Camp. B. F. Johnson & Company. Richmond, Virginia, 1887.

GOOD MEDICINE IN SPITE OF OPPOSITION

The development of public health and sanitation has grown out of medicine's laborous efforts to safeguard physical well being in the face of the mounting hazards consequent upon the course of civilization. The past century of mechanization with its inevitable urbanization has presented stupendous public health problems. That these problems have been well met by the medical profession is evident in the shining streets and the creditable health records of the world's great cities where people live in cleanliness, comfort and safety above the scientifiically sub-

merged filth of their composite existence. This physical security has been achieved in spite of the immediate material and political obstacles so often encountered. In the past, medical opinion ultimately commanded popular support and in the end, the people pursued the course of public welfare.

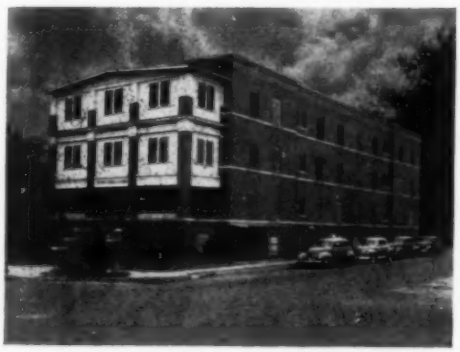
In the United States we are now threatened with a serious break in the sound continuity of the established medical service which has so adequately encompassed private and public needs. If the political vultures who would take advantage of the unstable national psychology arising through our present world crisis to foist upon the people the Wagner-Murray-Dingell Bill, could have three months in Washington under present conditions without sanitary engineering and preventive medicine, they would be so busy dodging the shadows of carrion crazed vultures they would be glad to preserve the present method of medical practice which unobstrusively has given them the life saving security they now enjoy without a moment's thought as to its source and its true significance.

Doctors have never considered it good taste to talk about their accomplishments but the time has come when the people should know the facts in order that they may act accordingly.

ROBERT KOCH

In the first quarter of the 19th century, the death rate from tuberculosis in London was approximately 700 per 100,000. On December 11, 1843, Robert Koch was born in Hanover, Germany. In 1866 he received his medical degree from Gottingen. In 1871, while still a struggling country doctor, his wife gave him a microscope as a birthday gift. Behind a curtain which partially partitioned his otherwise one room office, he studied bacteriology at the expense of his already unprofitable practice. In 1876 he startled the world by his remarkable investigations of anthrax. In 1880 he was called from his country practice to the Imperial Health Office in Berlin. In 1882 he discovered the tubercle bacillus and in 1890 he prepared tuberculin, which, though disappointing as a therapeutic agent, has become a valuable aid to diagnosis. In 1900 the death rate in the United States was 200 per 100,000, today it is less than 45 per 100,000.

What would Robert Koch think of Germany's present policies with reference to life and death and human welfare. Noteworthy is the fact that the phenominal personal initiative having to do with the development of laboratories, research and clinical procedure in Germany was well under way before Bismarck initiated his program of social legislation.



The Coyne Campbell Sanitarium, Inc.

Oklahoma City, Oklahoma

Established in 1939

for treatment of

Nervous and Mental Disorders

Coyne H. Campbell, M.D., F.A.C.P.
Charles E. Leonard, B.S., M.D.
Muriel E. Hyroop, M.D.
*Charles A. Smith, M.D.
Aleen Bittner, R. N., Supervisor
Jessie Bent, Business Manager
*Jack Barthold

(*Now Serving In Armed Forces)

ASSOCIATION ACTIVITIES

DATE SET FOR FIFTY SECOND ANNUAL STATE MEETING

The Oklahoma State Medical Association will hold its 52nd Annual Meeting in Tulsa at the Mayo Hotel on April 24, 25 and 26, 1944.

At a recent meeting of the Annual Session Committee it was decided to hold a three-day meeting again in 1944 rather than a two-day, streamlined session as in 1943. The prospectus and floor plan was recently mailed to technical exhibitors, and all available booth spaces were immediately reserved by many of the companies who have previously exhibited as well as several who will be with the State Association at its Annual Meeting for the first time.

The program for the scientific session is well under way. The Scientific Work Committee has recently announced that several out-of-state Guest Speakers will be invited to participate in the General Session, and the various Section Officers are in the process of securing local physicians to participate in the Sectional Meetings. Additional details will be published as soon as available.

It is suggested that every member of the Association begin his plans now to attend the meeting as it is only through this means that we, as physicians, are able to keep abreast of present scientific knowledge.

SESSION OF NATIONAL CONFERENCE ON MEDICAL SERVICE TO BE HELD FEBRUARY 13 IN CHICAGO

The 1944 Session of the National Conference on Medical Service will be held February 13 at the Palmer House in Chicago on the day preceding the Annual Congress on Medical Education and licensure. This meeting comes at a critical time in the life of the nation and of medicine. The Secretary, Dr. C. L. Palmer of Pittsburgh and other officers of the conference are hoping to make the program vital and comprehensive and will greatly appreciate any suggestions you can make.

It is felt advisable that as many as possible should plan to attend the meeting because if ever an exchange of ideas, looking toward wise and public-spirited planning for health of the nation was needed it is now; and this meeting provides the one opportunity of the year for an informal exchange on the subject between representatives of organized medicine all over the country. The national conference is an independent body, as you know, without practical discussion of issues which may make or break our system of medicine in the United States.

POSTGRADUATE MEDICAL FELLOWSHIPS AVAILABLE THROUGH THE COMMONWEALTH FUND

Dr. Grady F. Mathews of the Public Health Department, has received word that through the Commonwealth Fund's Division of Public Health, a number of postgraduate medical fellowships for practicing physicians will be available during 1944. Work under these fellowships will be offered at Tulane University Medical School at New Orleans and Harvard School in Boston. The courses thus far announced at Tulane include pediatrics January 24-27; surgery, February 21-26; medicine, March 20-25. The courses set up at Harvard include obstetrics, one month, available during any calendar month throughout the year; internal medicine, one month in September; and pediatrics, two weeks the early part of August.

Each of the fellowships mentioned above carries, as in the past, provision of refund of necessary travel expense from the physician's home to the school at the beginning of the course and for the return trip when the course is completed, plus tuition, and a daily stipend of $10.00 for the short courses, and a monthly stipend of $250.00 for the courses of a month's duration.

Applications from physicians who are graduates of a grade A medical school who have not yet attained the age of 60 will be given consideration, although preference will be given to applications from physicians located in the smaller communities in the state and to those who have not yet attained the age of 50. As in the past, inquiries and applications should be sent directly to the Division of Public Health of the Commonwealth Fund, 41 East 57th Street, New York City 22. It is obvious that those interested in the course in pediatrics at Tulane in January must make application promptly so that the necessary personal interview can be had with them and their credentials cleared at least a week before the course begins.

WESTERN OKLAHOMA HOSPITAL AT SUPPLY IS ACCREDITED BY AMERICAN COLLEGE OF SURGEONS

On January 7, word was received that the Western Oklahoma Hospital at Supply had been accredited by the American College of Surgeons. Dr. John L. Day, Superintendent of the Hospital, said that few mental hospitals have been so accredited.

Dr. Paul Ferguson, of the American College of Surgeons, made the inspection of the Hospital. It was suggested that a trained dietitian and trained nurses be employed. It has been very difficult to obtain the necessary, trained personnel.

THREE OKLAHOMA PHYSICIANS ACCEPTED INTO FELLOWSHIP IN AMERICAN COLLEGE OF SURGEONS

The following three physicians are initiates from Oklahoma who were accepted into Fellowship in the American College of Surgeons in 1943:

Andre B. Carney, M.D., Tulsa;
Denman C. Hucherson, M.D., Oklahoma City;
John M. Parrish, Jr., M.D., Oklahoma City.

PHYSICIANS RECENTLY LICENSED IN OKLAHOMA

Word has been received from J. D. Osborn, M.D., Secretary of the State Board of Medical Examiners that the following physicians have been licensed since July, 1943 to practice medicine in Oklahoma:

Applegate, Albert Earl, Oklahoma City; Bell, Ben, Washington, D. C.; Cain, James Henry, Tulsa; Cales, John Othal, Ralston; Cassidy, Charles Anthony, Oklahoma City; Colyar, Ardell Benton, Des Moines, Iowa; Cochran, Joseph E., Byars; Darden, Paul Martin, Oklahoma City; Dudley, Albert Webb, Oklahoma City; Davis, John Paul, Jr., Frenso, Cal.; Ellis Leonard Jns., Jr., Oklahoma City; Faulkner, Mortimer Sharpe, Orange, N. J.; Fite, Marcia, Tulsa; Howard Herbert Hardin, Ft. Worth, Tex.; Huff, Thos. Jefferson, Walters; Hughes Barbara Jean, Oklahoma City; Hallendorf, Leonard Chas., Des Moines, Iowa.

Hartig, Otto Joseph, Tulsa; Jones, James Earl, Frederick; Jones, Nathaniel A., Oklahoma City; Kennedy,

Main Office and Entrance to Polyclinic Hospital

EFFICIENCY CONSTANT AIM OF POLYCLINIC

The business-like office giving entrance to Polyclinic Hospital reflects the high standard of service which this institution sets for itself. The lobby is spacious and cheerful. Thick tile makes for quiet.

Here is the switchboard, constantly and courteously attended, giving telephone service to every room. Back of the desk is the office of the secretary, who handles the business of the hospital. Physicians who practice here appreciate the thorough attention to detail that is an integral part of Polyclinic service.

POLYCLINIC HOSPITAL

THIRTEENTH and ROBINSON OKLAHOMA CITY

MARVIN E. STOUT, M.D.
Owner

James Ralph, Oklahoma City; Lucan, Boyd Vance, Oklahoma City; McCellan, James Thomas, Rochester, Minn.; McGill, Joseph John, Oklahoma City; Maxwell, Thos. Meredith, Vinita; Orr, Herbert Stokes, Jr., Tulsa; Robinson, Lillian Harris, Helena; Schaff, Hartzell V., Holdenville; Sims, Harry James, Richmond, Cal.; Taylor, Robert Leroy, Tulsa; Williams, Byron Edward, Oklahoma City; Walden, Dewey Hobson, Evansville, Ind.; Zager, Warren Jack, Tulsa.

SURGICAL DIAGNOSIS COURSE TO OPEN FEBRUARY 14

In the November Journal physicians will remember the Postgraduate Committee announced the appointment of A. G. Fletcher, M.D., F.A.C.S., as instructor for the coming course in Surgical Diagnosis. Announcement letters containing the outline of Dr. Fletcher's course were mailed December 11 to the first circuit which includes the centers of Bartlesville, Claremore, Vinita, Pryor and Miami. The course will open the week of February 14.

The following are the past teaching and clinical connections of Dr. Fletcher:

Date of Birth: August 16, 1882.

1905: Graduated from University of Illinois, Medical Department.

1905-1909: Internship, Residency in Surgery, Methodist Hospital, Sioux City, Iowa.

1909-1914: Surgical Staff of Presbyterian and Good Hope Hospitals, Taiku, Korea, Japan.

1914: London School of Tropical Medicine, London, England.

1915-1918: Surgical Staff of Presbyterian and Good Hope Hospitals, Taiku, Korea, Japan.

1919: Graduate Study in Phipps Institute of University of Pennsylvania.

1920: Research Work in Johns Hopkins Hospital.

1921-1941: Surgeon in Chief Presbyterian and Good Hope Hospitals, Taiku, Korea, Japan.

1942-1943: Surgical Section of the Graduate School, University of Pennsylvania.

The following is the outline of the course which will be taught by Dr. Fletcher:

Lecture No.

1. FRACTURES
   Principles of Repair: Rate of Repair: Classification; *Treatment*: First Aid, Six R's; (a) Recognition, (b) Roentgen Ray, (c) Relaxation, (d) Reduction, (e) Retention, (f) Restoration; Delayed or non-union—6 causes; Indications for operative treatment (five): Operative methods (six); Craniocerebral injuries; Diagnosis; Differential Diagnosis; Treatment; Treatment of compound Fractures.
2. SHOCK
   Types of Shock not under discussion; (1) Shell Shock, (2) Spinal Shock, (3) Gravity Shock, (4) Anaphylactic Shock, (5) Toxic Shock, (6) Anesthetic Shock, (7) Hemorrhage Shock. Surgical or Trumatic Shock; Primary Surgical Shock; Secondary Surgical Shock; Symptoms: (1) Blood Pressure, (2) Pulse, (3) Respiration, (4) Temperature, (5) Characteristic appearance of the patient. Etiology; Pathology of Shock; The present understanding of Shock; Measurement of Shock; Treatment of Shock.
   The Principal Functions of the Blood, Hemorrhage
3. A. BURNS
   (1) Severity and (2) Extent; First degree, Second degree, Third degree, Fourth degree; Pathology; Treatment; Plasma; Fluid Balance; Chemotherapy; Surface Treatment of Burns; (1) Koch Method, (2) Tanning Agents; Skin Grafting.
   B. INFECTION OF THE HAND
   (a) Felon, (b) Paronchyia, (c) Subcutaneous Infections. Treatment. Major Infections: (a) Tenosynovitis, (b) Fascial Space Infections.
4. THE SURGICAL PATIENT
   A. Preparation for Operation
   B. Postoperative care including,
   C. Fluid Balance
5. A. CERVICAL SWELLINGS
   B. THYROID ENLARGEMENTS
   C. BREAST DISEASES
6. A. CHEST INJURIES
   B. CHEST DISEASES
   C. DIFFERENTIAL DIAGNOSIS OF CHEST CONDITIONS, PHRENIC AND LIVER ABSCESSES
7. DISEASES OF THE PERITONEAL CAVITY
   A. Peptic Ulcer
   B. Gall Bladder Diseases
   C. Appendicitis
   D. Intestinal Obstruction
8. DIFFERENTIAL DIAGNOSIS OF THE ACUTE ABDOMEN
9. DISEASES OF THE FEMALE GENITALIA
10. NEOPLASMS
    A. Classification
    B. Characteristics
    C. Diagnosis, Prevention and Treatment

RESOLUTION

While the physicians of Northwestern Oklahoma have always known and appreciated the work and outstanding character of Doctor O. C. Newman of Shattuck, we are gratified that other parts of the State and other peoples now know of it also. We are also gratified that finally the Medical Profession has been recognized for its work and devotion to duty.

THEREFORE, BE IT RESOLVED that the members of the Woodward County Medical Society commend the Trustees of the Hall of Fame for recognizing the Medical Profession, and especially Northwestern Oklahoma in the person of Doctor O. C. Newman.

Signed by the Committee

NEW LEDERLE REPRESENTATIVE

M. K. Dodgen, formerly associated with Southwestern Drug Co,, Dallas, Texas, is now with Lederle Laboratories in Eastern Oklahoma with headquarters in Tulsa. Mr. Dodgen is replacing Mr. L. J. Ebeling who has recently accepted a position as Kansas City Office Manager for Lederle.

• *OBITUARIES* •

Isaac Sylvester Hunt, M.D.
1861-1943

Isaac Sylvester Hunt was born in Skulfork County, Ohio, March 19, 1861 and passed away at Freedom, Oklahoma, October 15, 1943, age 82 years. He grew up in his home county and secured his primary education in the village school.

Dr. Hunt attended the Ohio Eclectic College but was compelled to quit before graduation on account of economic conditions. He moved to Oklahoma at the time of the opening and practiced for many years at Curtis. He moved to Old Freedom in 1918 and moved with the town when the railroad was built through. He continued there in practice until the time of his final illness.

"Doc" Hunt, as he was known to most of the people of western Woods County, was a typical country doctor. He practiced in Woodward County and later in Woods County, using a saddle horse with saddle bag, then a team and buggy before the days of the automobile. Through day and night, sunshine or storm, snow or sleet, he carried the gospel of healing into many a home dark from clouds of illness of saddened by

"How much do you smoke?"

is only part of the question!

Far more important than "How many cigarettes do you smoke?" may be the question, "How irritating is your cigarette?"

RECOGNIZED LABORATORY TESTS* SHOWED THAT THE IRRITANT QUALITY IN THE SMOKE OF FOUR OTHER LEADING BRANDS AVERAGED MORE THAN THREE TIMES THE STRIKINGLY CONTRASTED PHILIP MORRIS.

The possibility of irritation from smoking can be minimized by suggesting a change to PHILIP MORRIS.

PHILIP MORRIS

Philip Morris & Company, Ltd., Inc., 119 Fifth Avenue, New York

**Facts from: Proc. Soc. Exp. Biol. & Med., 1934, 32, 241-245; N.Y. State Jrnl. of Med. Vol. 35, No. 11,590; Arch. of Otolaryngology, Mar. 1936, Vol. 23, No. 3,306*

TO THE PHYSICIAN WHO SMOKES A PIPE: We suggest an unusually fine new blend—COUNTRY DOCTOR PIPE MIXTURE. Made by the same process as used in the manufacture of Philip Morris Cigarettes.

death. He would spend hours with severely ill and comfort the bereaved when death overcame his medical skill.

Dr. Hunt was active in work of the church and was a member of the Masonic and Odd Fellow Lodges. He belonged to the Woods County Medical Society, of which he was a regular attendant, and the Oklahoma State Medical Association, being an honorary member at the time of his death.

Jeff T. Parks, II, M.D.
1909-1943

Dr. Jeff T. Parks, II, Oklahoma City, died November 11 in Wesley Hospital. He had made his home in Oklahoma City for the last fourteen years.

Dr. Parks was born in Tahlequah where he lived until his graduation from the State Teachers College there in 1928. At that time he entered the University of Oklahoma School of Medicine and graduated in June, 1943. At the time of his death, Dr. Parks was serving an internship at Wesley Hospital.

Services were conducted in Oklahoma City at the Smith and Kernke Funeral Home. The body was then taken to Tahlequah where services were held at the First Methodist Church. He is survived by his widow, Mrs. Mary Parks of Oklahoma City, his father, Judge Jeff T. Parks of Tahlequah, and three sisters.

James R. McLauchlin, M.D.
1884-1943

Dr. James R. McLauchlin, Oklahoma City, poineer state physician, died on December 7, in St. Anthony hospital after a brief illness. Dr. McLauchlin was County Physician, in which capacity he served for eight years. Prior to that time he was in private practice in Oklahoma City and Norman.

In 1907, Dr. McLauchlin came to Oklahoma where he entered the Oklahoma University School of Medicine, graduating in 1911. Following his graduation he began practice in Denver, Oklahoma, near Norman, moving to Norman within five years. After a short time in Norman, Dr. McLauchlin joined the staff of the Central State Hospital, where he served three years. In 1921, when the State Tuberculosis Sanitarium was established at Clinton, he became its first superintendent, and served two years. Dr. McLauchlin came to Oklahoma City in 1923 and remained until the time of his death.

Dr. Lauchlin is survived by his widow, three daughters, Mrs. J. Gunter Johnson, Delphine Margaret McLauchlin and Mrs. M. E. Trapp, all of Oklahoma City, and three sons, Dr. James R. McLauchlin, Jr., Oklahoma City, Pfc. Robert Allen McLauchlin, a student at the University of Chicago, and Rex Vincent McLauchlin, seminary student at Oconomowoc, Wisconsin.

Funeral services were held December 30 by the Capitol Hill funeral home.

Benjamin W. Slover, M.D.
1873-1944

Dr. Benjamin W. Slover, Blanchard, died January 8 in an Oklahoma City Hospital ofter an illness of one month. Dr. Slover was president of the McClain County Medical Society and very active in all civic affairs.

Dr. Slover graduated from Barnes Medical College, St. Louis, Missouri, in 1901. Shortly afterward he came to Oklahoma where he took up private practice. Retiring from active practice several years ago, he had devoted most of his time to farm and ranch interests.

Surviving Dr. Slover are his widow, Mrs. Lucy Slover, Blanchard, a daughter, Mrs. E. B. Collingsworth, El. Paso, Texas, and one brother, Dr. G. W. Slover, Sulphur. Burial will be in Durant where Dr. Slover lived for thirteen years.

RESOLUTION

The following resolution was passed at the October 18 meeting of the Members of the Oklahoma State Medical Board:

In honor of Dr. C. E. Bradley, a Member of the Oklahoma State Board of Medical Examiners, who passed away in July, Dr. Leslie submitted the following resolution for adoption:

WHEREAS, Dr. C. E. Bradley, who died at his home in Tulsa, July 6, 1943, was an active Member of the State Board of Medical Examiners, and a very efficient worker to the best interest of Organized Medicine in Oklahoma; therefore,

BE IT RESOLVED, That the State Board of Medical Examiners, in extra session held in Oklahoma City, October 18, 1943, wish to express our sincere regrets over the passing of our friend and colaborer;

THEREFORE, BE IT FURTHER RESOLVED, That a copy of this resolution be sent to his wife, Mrs. Bradley, and a copy spread on the minutes of our Board.

Motion by Dr. Johnson, seconded by Dr. Weber, that we accept the resolution, that it be made a matter of record on our minute book, and that it be published in the Journal. Motion carried.

University of Oklahoma School of Medicine

Seven (7) students in the School of Nursing were granted the Diploma of Graduate Nurse at the Commencement Exercises. They were:

Billy Hutchison Bell
Margaret Barlow Byrd
Maxine Norman Dickson
Evelyn Green
Effie Agnes Hughes
Evelyn Norman
Loveda May Scharnhorst

On January 1, 1944, the following men will have completed a nine-months internship at the University of Oklahoma Hospitals:

John H. Ademetz, M.D., University of Wisconsin
Frank A. English, M.D., University of Syracuse, N. Y.
Harold R. Henstorf, M.D., University of Iowa.
Albert E. James, M.D., University of Colorado
Franklin G. Osberg, M.D., University of Colorado

Dr. George N. Barry, Medical Director, was recently injured by a "hit and run driver" and spent several days in the Polyclinic Hospital.

Dr. Tom Lowry, Dean, recently spent two weeks in New York City.

Dr. H. A. Shoemaker, Assistant Dean, attended a conference for the selection of medical and dental Army Specialized Trainees at Dallas, Texas, December 9, 1943.

Dr. Arthur A. Hellbaum has been named Professor of Pharmacology and Acting Chairman of the Department of Pharmacology. Dr. Hellbaum has for several years served as Associate Professor of Physiology.

Dr. John F. Hackler has been appointed Professor of Hygiene and Public Health. He recieved his A.B. Degree from Northeastern State College, Tahlequah, Oklahoma, his B. S. in Medicine from the University of Oklahoma in 1931, and the Degree of Doctor of Medicine from the University of Oklahoma School of Medicine in 1933. He did special work in Public Health at Vanderbilt University School of Public Health and at Johns Hopkins School of Hygiene and Public Health, where he received the Degree of Master of Public Health in 1940. Recently Dr. Hackler has been associated with the Oklahoma State Health Department.

Dr. John W. Cavanaugh has been appointed full-time Professor of Surgery at the School of Medicine and the University of Oklahoma Hospitals. He is a graduate of the University of Iowa College of Medicine, having re-

ceived the degree of Doctor of Medicine in June, 1939. He was a member of the Alpha Omega Alpha Honorary Medical Society. He served a two-year rotating internship at the University of Oklahoma Hospitals, after which he was appointed Assistant Resident in Surgery and later as Resident in Surgery. Since July, 1943, he has been associated with Dr. M. M. Mills, Topeka, Kansas.

Dr. Turner Bynum, Visiting Lecturer in Medicine, has been granted a leave of absence for the duration of the War, effective November 15, 1943.

Dr. H. J. Binder, Associnte in Pediatrics, has been granted a leave of absence for the duration, as he has been ordered to active duty with the Armed Forces as of November 16, 1943.

Dr. Mary V. S. Sheppard has recently been appointed Instructor in Medicine.

Commencement Exercises were held at the University of Oklahoma, Norman, Oklahoma on Thursday, December 23. The following students were granted the degree of Doctor of Medicine and will serve internships as indicated:

NAME	INTERNSHIP	LOCATION
Adams, George Mullins	U. S. Naval Hospital	San Diego, California
Alexander, James Leon	Jefferson Davis Hospital	Houston, Texas
Anderson, Thomas Page	St. Paul's Hospital	Dallas, Texas
Archer, Homer Vincent	New Rochelle Hospital	New Rochelle, N. Y.
Arrendell, Eugene Hamlin	U. S. Naval Hospital	(Not Designated)
Ballard, Jack Duane	U. S. Naval Hospital	(Not Designated)
Bell, Joseph Price	University Hospital	Oklahoma City
Bodine, Charles David	Mercy Hospital	Chicago, Ill.
Brown, Clifford Alton	St. Anthony Hospital	Oklahoma City
Brown, George MacMillan, Jr.	U. S. Naval Hospital	Bainbridge, Md.
Carter, Herschel Gray	U. S. Naval Hospital	(Not designated)
Cohen, Samuel Lewis	French Hospital	San Francisco, Calif.
Conn, Julia Harold	St. Luke's Hospital	Cleveland, Ohio
Cooke, Everett Ellis	Jersey City Medical Center	Jersey City, N. J.
Cosby, Glenn Wendelle	St. Anthony Hospital	Oklahoma City
Cullen, Marvin LeRoy	Jersey City Medical Center	Jersey City, N. J.
Dawson, Clarence Benton	Augustana Hospital	Chicago, Ill.
Donnell, John	Jersey City Medical Center	Jersey City, N. J.
Farr, Louise Kinkead	University Hospital	Oklahoma City
Fife, Phillips Raymond	Wesley Hospital	Oklahoma City
First, Safety Reuel	Hillcrest Memorial Hospital	Tulsa, Oklahoma
Flanigin. Herman Floyd, Jr.	University Hospital	Oklahoma City
Fluhr, William Forrest	Presbyterian Hospital	Los Angeles, Calif.
Gastineau, Clifford Felix	Colorado General Hospital	Denver, Colo.
Gerard, Rene Gabriel	St. Paul's Hospital	Dallas, Texas
Holt, Robert Perry	Aucker Hospital	St. Paul, Minn.
Hough, Jack Van Doren	U. S. Naval Hospital	Farragut, Idaho
Huff, Dick H. P.	(Not definite as yet)	
Kiney, Kenneth B.	Hollywood Presbyterian Hospital	Los Angeles, Calif.
Klebanoff, Milton	University Hospita l	Oklahoma City
Knight, William Ewart	University Hospital	Oklahoma City
McIntyre, John Aubrey	U. S. Naval Hospital	Norman, Oklahoma
Macrory, Paul David	Wesley Hospital	Oklahoma City
Meis, Armon M.	Mercy Hospital	Denver, Colo.
Meis, Donna Lea Hammer	Mercy Hospital	Denver, Colo.
Neal, James Hal	St. Luke's Hospital	Duluth, Minn.
Rector, William Lee, Jr.	Iowa Lutheran Hospital	Des Moines, Iowa
Robinson, Earl Moore	Wesley Hospital	Oklahoma City
Rockett, Louis Stong	Iowa Lutheran Hospital	Des Moines Iowa
Sanders, Harold Ray	St. Anthony Hospital	Oklahoma City
Stickle, Arthur Waldo	University Hospital	Oklahoma City
Strong, Clinton Riley	U. S. Naval Hospital	Long Beach, Calif.
Taylor, Fred Wilbur	U. S. Naval Hospital	Farragut, Idaho
Thompson, William Best	New Rochelle Hospital	New Rochelle, N. Y.
Tolbert, Jack Burgess	Good Samaritan Hospital	Portland, Oregon
Trzaska, Henry Constantine	St. Mary's Hospital	Chicago, Ill.
Turner, Edwin Charles	Swedish Hospital	Seattle, Wash.
Walker, Ethan Allen, Jr.	U. S. Naval Hospital	Bainbridge, Md.
Whiteneck, Ronald Alven	University Hospital	Oklahoma City
Winn, George Louis	U. S. Naval Hospital	Bethesda, Md.
Witcher, Jones E.	Baptist Memorial Hospital	Memphis, Tenn.

OFFICERS SELECTED FOR OKLAHOMA COUNTY SOCIETY AND OKLAHOMA CITY CLINICAL SOCIETY

Dr. William E. Eastland has been chosen president of the Oklahoma County Medical Society succeeding Dr. Walker Morledge. Dr. Gregory E. Stanbro was named president-elect and automatically will become president in 1945.

Other officers of the Medical Society include Dr. W. Floyd Keller, vice-president; and Dr. Elmer R. Musick, re-elected secretary-treasurer and also named treasurer of the Oklahoma City Clinical Society. Members of the Society Board of Directors are: Dr. Eastland; Dr. Keller; Dr. F. M. Lingenfelter; Dr. Walker Morledge; Dr. Musick; Dr. C. R. Rountree; Dr. Gregory Stanbro; Dr. W. K. West and Dr. J. H. Robinson.

The Oklahoma City Clinical Society selected as its president, Dr. D. H. O'Donoghue. Other officers are: Dr. C. P. Bondurant, director of clinics; Dr. Clark H. Hall, vice-president and Dr. L. Chester McHenry, secretary.

MEDICINE AT WAR

IMMEDIATE NEED FOR ADDITIONAL MEDICAL PERSONNEL MADE EVIDENT BY REVISED FEDERAL ACT

The Directing Board, Procurement and Assignment for Physicans, War Manpower Commission, recently issued a directive citing an immediate need of several thousand additional medical personnel. All State Chairmen are re-appraising physicians of military age as it is felt that those who have been rejected may now be able to meet the physical standards now in effect. Names of those who are classiffed as available but who have not as yet accepted a commission are certified as available to the State Director of Selective Service for any action which may be taken.

One important change in the status of physicans was approved on December 10. The recently enacted law includes the following provision: "Provided, That no individuals shall be called for induction, ordered to report to induction stations, or be inducted because of their occupations, or by occupationnal groups, or by groups in any plant or institution, except pursuant to a requisition by the land or naval forces for persons in needed medical, professional and specialist categories." This provision is taken to mean that special quotas for physicans may be established and those classified as available for military service may be inducted under special procedure regardless of order number in the event that the Armed Forces make special requisition for medical officers.

The following is a list of questions, with the answers, which are frequently asked by physicians. These have been prepared by the Washington Office for Procurement and Assignment Service.

Q. What are the present age limits for service in the Medical Corps of the Armed Forces?

A The upper limit in the Army is, in general, the 45th birthday, but for specific position vacancies men up to 60 are eligible. The limit in the Navy is, in general, the 50th birthday.

Q. What is the present status of physical requirements?

A. The Navy at the present time still has the highest standards, although they are lower than they were. The Army is next, and those who are physically disqualified for Army service may be eligible for commission in the United States Public Health Service.

Q. What ranks are being offered by the services at the present time?

A. The Army is limiting those under 38 to first lieutenancies and those about 38 and over, to captaincies and above if they meet special requirements of the Surgeon General. The latter rank depends upon special qualifications. The Navy is limiting those 34 and under to lieutenancies, jr. gr., those from 34 to 38 lieutenancies, sr, gr., and those from 38 to 44 lieutenant commanderships. For specific position vacancies requiring special qualifications higher commissions may be offered. The Public Health Service has commissioned ranks similar to those in the Army.

Q. What are the present needs of the services?

A. All three branches of the Armed Forces are in immediate dire need of several thousand additional medical personnel. This immediate period of need is between now and January 1st.

Q. Why is the Public Health Service classed as one of the branches of the Armed Forces as far as medical officers are concerned?

A. For many reasons, among them the fact that they supply the medical personnel for the U. S. Coast Guard. Physically qualified eligible officers are assigned by the Public Health Service for active duty with the Coast Guard and may be assigned anywhere the American flag flies.

Q. Why have so many practitioners who are capable of serving long hours in civilian practice been disqualified for military service?

A. The exigencies of service in combat areas are such that civilian practice is no criterion of physical qualification. The services at the present time have a full quota of those that they can accept for limited duty. They are being forced to discharge some at present. Certain individual physicians who still will be able to undertake heavy civilian duties are no longer able to cope with the needs of combat troops.

Q. Why is it necessary for a physician to take an indoctrination course after entering the Medical Corps?

A. The reason for this is that a physicinn becomes a medical officer, which means that he is at all times an officer subject to the duties of other officers of other branches of the service. He must be responsible for those under his command and must be entirely capable of meeting any situation which confronts such personnel as is under his direct supervision whether it be in open field duty requiring the setting up of field hospitals or the maintenance of food suppy and shelter for his personnel, as well as a correlation of the activities of his group with the other services under the same command.

Q. Is it true that the Armed Forces are not making efficient use of their medical personnel?

A. There have been many occasions in the past when appearances would lead anyone to believe that they were not. At present time efficient use is being made of such personnel, and it must always be remembered in this connection that a reserve supply of such personnel must be maintained for immediate assignment to duty. Such a group must have been trained to meet the situations it will face immediately after assignment and cannot be gathered together at the last minute to be assigned to some specific post. Furthermore, the planning of any military campaign requires a complete lineup of all services. If reverses are suffered such men who are in preparation of projected positions may not be able to fill such positions and must be held for further plans. War, by its very nature, is not essentially efficient, but the lack of medical personnel in the various branches of the Armed Forces has resulted in a high increase in their efficient use.

Q. On the basis of present ratios of physicians to individuals, which service has the greatest need at the present time?

A. The Army ratio is slightly over 6 per 1,000, whereas the Navy is somewhat under 4 per 1,000. Therefore, the Navy needs men somewhat more than the Army.

Q. Why is any man under 38 ever classified as essential?

A. He is only essential if he were to leave his community or his institution and there were no replacement for him. No man under 38 is, as a general rule, considered permanently essential, but only essential until he can be replaced by another physician who is not eligible for service with the Armed Forces.

Q. Has not the civilian population been endangered by the number of physicians who have entered the Armed Forces?

A. Not for the Nation at large. There are various problems of redistribution which have been partially or complete solved and some which will be difficult to

solve, but if such distribution is equitable there is no shortage at present for minimal adequate civilian care.

Q. Will not the needs of the services continue and require that additional personnel leave civilian life?

A. To some extent, yes, but primarily the services will be able to meet their own needs for replacement from the students they are training at present. The Navy may need some additional personnel even though they are also training students. The Public Health Service will continue to have needs since they do not have any students in training.

Q. Why do not the Armed Forces adopt the liberalizations that exist in England and elsewhere?

A. Because it is essential that American standards be maintained for the men in the Armed Forces as well as on the home front. Comparisons with the Armed Forces of other Nations are not in order any more than comparisons of physician-population ratios on the home front are with those of other Nations. The mortality in the Armed Forces at the present time is astoundingly low and every effort will be made to keep them at that level. This will obviously require further sacrifices on the part of those on the home front, but the Procurement and Assignment Service is constantly aware of the fact that supplies of all kinds must continue to flow to those who are on active duty and that, therefore, the health of the home front is as much a part of the war effort as is the health of the soldier.

Q. What action does Selective Service take on physicians?

A. Although local boards differ somewhat in their actions, in general, no action is taken at present on physicians or others over 38. Reclassificatoin of those under 38 is going on constantly and dependency is not considered to the same extent as it was in the past.

Implications of Waivers for Physical Defects

The following is a release from the War Manpower Commission dated January 8, 1944:

"What are the implications of waivers for known physical defects which physicians sign upon being appointed for limited service in the Army Medical Corps?

The answer to this recurrent question is clarified in a recent opinion on the subject by the Office of The Judge Advocate General of the Army. The opinion, released by the Procurement and Assignment Service of the War Manpower Commission, is as follows:

"Response is made to your oral inquiry whether acknowledgment, on the accompanying form, of existing physical defects would preclude a person from thereafter claiming benefits to which he would otherwise be entitled on account of the service connected aggravation of such defects. As to the defects acknowledged, the execution of such an instrument merely provides additional evidence of their existence, and to that extent would operate to preclude the person involved from thereafter claiming benefits on account of them. It is the opinion of this office, however, that the mentioned form does not support to be a waiver of possible future benefits to which the individual might become entitled by reason of any service-connected aggravation of such defects, and would not operate to deprive the individual of any possible benefits on account of such aggravation."

NEW COMMITTEE CHAIRMEN APPOINTED BY PRESIDENT STEVENSON

The resignation of Dr. Fannie Lou Leney as Chairman of the Committee on Pediatrics occassioned the elevation of Dr. Luvern Hays, Tulsa, former Secretary, to the position of Chairman. Dr. James Stevenson, President, has appointed Dr. G. R. Russell, Tulsa, to the position of Secretary.

Dr. Stevenson has appointed Dr. W. S. Larrabee, Tulsa, as the new Chairman of the Committee on Dermatology and Radiology to succeed Dr. Leon H. Stuart, who has resigned the position.

FOR developing and producing Sterile Shaker Packages of Crystalline Sulfanilamide especially designed to meet military needs, for supplying Mercurochrome and other drugs, diagnostic solutions and testing equipment required by the Armed Forces, and for completing deliveries ahead of contract schedule—these are the reasons for the Army-Navy "E" Award to our organization.

Until recently our total output of Sterile Shaker Packages of Crystalline Sulfanilamide was needed for military purposes. As a result of increased production, however, we can now supply these packages for civilian medical use. The package is available only by or on the prescription of a physician.

Supplied in cartons of one dozen Shaker Packages each containing 5 grams of Sterile Crystalline Sulfanilamide, 30-80 mesh.

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★ FIGHTIN' TALK ★

Lt. David Norman Trimble, Tulsa has been ordered to active duty. The following have received recent promotions: From Lieutenant to Captain; *Clifton Felts,* Seminole; *William E. Lytle,* Seminole; *Eric McLain White,* Tulsa; *Willard Dennis Holt,* Altus; *Jack Francis Parsons,* Cherokee; *Frank Thomas Joyce,* Chickasha. From Captain to Major: *William Harrell Webster,* Ada; *O. H. Cowart,* Bristow; *Tom Hall Mitchell,* Tulsa; *George Thomas Allen,* Oklahoma City.

Lt. Dick Graham, former Executive Secretary of the Oklahoma State Medical Association, arrived from his station in the Surgeon General's Office in Washington to spend a few days in Oklahoma City. *Dick's* main objective was to see Mrs. Graham and the new son, Richard, Jr., who was born December 28, at Wesley Hospital in Oklahoma City. Both mother and baby are reported as doing fiine.

All of *Dick's* many friends were glad to see him and look forward to another visit in the future.

Lt. Elmer Ridgeway, Jr., Oklahoma City, returned to the states recently from the Southwest Pacific Area where he has been Naval Surgeon at a secret base. *Lt. Ridgeway* brought the good news to relatives and friends of fighting men in that area that they are being well taken care of and that the "mortality rate in the hospital was less than one-tenth of 1 per cent." Casualties are brought by air to the hospitals and arrive within a short time after they are wounded.

Romance found *Lt. Ridgeway,* or vice-versa, in the Southwest Pacific. Miss Virginia Boling of Terre Haute, Ind., a member of the first nursing contigent to arrive in the South Seas Hospital, and *Lt. Ridgway* were married upon their return to the States.

Dr. Virgil F. Doughtery, medical missionary from Oklahoma City, graduate of the Oklahoma University School of Medicine in 1923, recently acted as his own physician in Saye, Ethiopia, and narrowly escaped death. After an encounter with a thief who had entered his home, Dr. Doughtry was seriously injured by several stab wounds in the back and abdomen. Although nearing an unconscious condition, he was able to instruct his wife and an Amharic doctor to administer adrenalin and morphine and to sew up his wounds. He is recovering nicely.

Dr. Doughtery has been a medical missionary in Iran, Sudan and Ethiopia for several years. He has recently had to leave Gere because of the Italian invasion.

Major James O. Hood, Norman, and his regimental medical detachmment in Italy, in recognition of their heroism, have recently received well-deserved recommendations and decorations. *Major Hood* says that the glory goes to the detachment and not to himself.

In a letter to his wife, *Major Hood* says that his men have seen plenty of action and that many of them had been decorated and other decorations will be presented soon. So far, he has escaped without a scratch. *Major Hood,* is the birth on December 16, of his second son, ilized in September, 1940, left the States June 1, 1943, landing in Africa. They were there only a few days; then took part in the capture of Sicily before going on to Salerno, Italy. The heroic deeds of *Major Hood* and his detachment will long live in the minds of Oklahoma physicians and citizens.

Another important happening in the life of *Major Hood,* is the birth on December 16, of his second son, Robert Sidney. It is not known whether this news has reached him or not, although he has been notified by cable and V-Mail.

Captain Ralph Phelan, Waurika, is close to the scene of fighting on the battlefields of Italy. *Captain Phelan's* untiring efforts to care for the wounded have made him an admirable figure to his men. Night and day, with little rest, he and his men are on the battle front with their litter squads, braving fire to evacuate the wounded.

Major M. M. Appleton, Oklahoma City, writes from England where he is stationed that he is "well-fed, busy and reasonably happy." *Captain T. A. Ragan,* Fairfax and *Captain R. E. Roberts,* Stillwater, are in the same unit and he sees them often.

Lt. Hayes E. Yandell, Tulsa, is now stationed on a tropical island 'some-where in the South Pacific.' *Lt. Yandell* says that it gives the men 'over there' a feeling of security to know that someone is fighting the Wagner Act at home.

Lt. Col. James G. Hughes, formerly instructor for the Postgraduate Committee, is stationd 'somewhere in Italy.' His recent letter reads in part: "Our hospital is highly interesting . . . we get the boys here and they are the salt of the earth. Never a whimper and always a smile. We have air raids now and then and I've crouched in fox holes in the best infantry style and heard the bombs whistle down nearby but the Red Cross of a hospital is well respected and nearby bombs are merely interesting accidents."

The following interesting letter was received from *Major H. B. Shorbe,* Oklahoma City. "My unit is composed of general surgeons and specialists divided into teams and these teams are sent where needed. It so happened that I led a number of teams on the invasion of Italy. We arrived with the infantry ahead of the tanks. I was once between German and American tanks when a duel started—I retreated!

"We set up and operated in a clearing station on the beach for three days before the evacuation hospitals could be set up. Then we assisted the hospitals. I assure you that there was no trouble with doctors grabbing another's patients. Unfortunately, there was enough for all.

"We have followed the troops in our push up Italy. Now I am working in an evacuation hospital 'somewhere on the front'. I have seen a number of Oklahoma doctors the past few months and I know our State is doing more than its share in this theater. All we want is to get this mess over and return to our homes and practices—this is no picnic!"

Lt. (jg) E. E. Schnoebelen, Mooreland, is stationed at the Navy Recruiting Station in Tulsa. Lt. Schnoebelen reports that he is now 'proud papa' of baby Renee Margaret.

We send our sympathy to *Lt. Comdr. Johnny A. Blue,* Guymon, who recently lost his mother, Mrs. Dannie Josephine Blue, State poineer. *Lt. Comdr. Blue* is stationed at the Navy medical center, Bainbridge, Md., where he is Chief of the Allergy Department of a 1,700 bed Naval Hospital and has received an appointment for further postgraduate work in Allergy in the near future.

Fast administration—a dose is delivered in 30 seconds.

Less disagreeable garlic odor following injection.

Well-tolerated—fewer gastro-intestinal upsets—full doses can often be given to patients intolerant to the arsphenamines.

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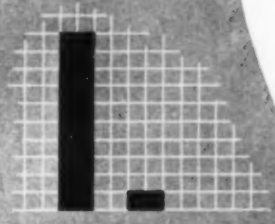

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Woman's Auxiliary

HOW THE WOMAN'S AUXILIARY CAN HELP IN THE U. S. CADET NURSE CORPS PROGRAM*

LUCILE PETRY, R.N.

Director, Division of Nurse Education, U. S. Public Health Service

This nation faces a wartime shortage of nurses, so acute as to impair not only the structure of nursing service but the successful prosecution of total war itself.

Recognizing the dangers of this condition, both Houses of Congress last June unanimously passed the Bolton Act establishing the U. S. Cadet Nurse Corps, and appropriated funds to be allotted to accredited nursing schools for the nation-wide operation of the Cadet Nurse Corps program. The basic purpose of the program, which is being administered by the Division of Nurse Education, U. S. Public Health Service, is to supply a larger number of nurses more quickly than ever before. This year's recruitment goal for the Corps is 65,000 new student nurses.

As of the end of October, almost 900 of the nation's 1300 nursing schools had been accepted for participation in the Corps program, with additional schools being approved each day. The estimated enrollment at that time was approximately 85,000 students—of whom 41,000 are expected to be new recruits.

All kinds of help, both individual and collective, are needed to recruit additional students. The members of the Woman's Auxiliary to the American Medical Association have indicated that they would aid in the recruitment drive to the total extent of their ability and close relationship with the medical nursing professions. It is the purpose of this article to outline—specifically and in some detail—what form which aid might take.

First, let us review briefly the basic details of the Cadet Nurse Corps program. Cadet Nurses receive free tuition and fees, living expenses, uniforms, and a graded monthly allowance. Under the Bolton Act, Federal funds are provided for these purposes, but schools participating in the Corps carry out their own programs in accordance with their own policies and traditions. There are no government schools of nursing.

Recruits must be between the ages of 17 or 18 (depending on state of school regulation) and 35. They must be in good health and graduates of accredited high schools. Students already in training at approved nursing schools may become members of the corps in their school, entering at the stage of advancement at which they then find themselves.

In what way can the Woman's Auxiliary be of service to the U. S. Cadet Nurse Corps? There are at least four ways in which you—both as individuals and as members of an organization—can be of great help:

1. By recruiting additional student nurses.
2. By helping interested girls choose the right school.
3. By holding—and strengthening—the interest of candidates for the Corps between the time they seek information and the time they are admitted.
4. By assisting local nursing councils and local hospitals in staffing hospital Information Centers for the Corps.

This is volunteer work of high importance.

The wives of physicians are in a particularly advantageous position to recruit nurses. To begin with, you are interested in and acquainted with the details of that profession; you are well-equipped to present the most convincing arguments for nursing as a wartime service and as a lifetime asset.

Then, too, young women who are considering entering the nursing profession—as well as the parents of such young women—generally come to a physician or to members of his family for advice. You are in a position to meet and talk with girls who you think would make good nurses—and with the parent's of these girls. Your husband may have a number of women patients who, with the proper encouragement, might easily become interested in a nursing career for themselves or their sisters or daughters. You can make sure that your husband understands fully the Corps program, and you can suggest that he try to encourage those patients—and those advice-seekers—whom he considers suitable to enter the field of nursing.

You can help also by assisting girls to choose the right school. What do we mean by the "right school?" We mean, first of all, a school that has been approved and that offers experience and instruction in a variety of services. Besides the four essential services offered, medical, surgical, pediatric, and obstetric, good schools usually offer experience in a combination of any of the following: psychiatric nursing, community or public health nursing, communicable disease nursing, out-patient nursing, and experience in a nursery school with well children. Also to be recommended is a school which gives emphasis to social and preventive aspects of nursing care.

Auxiliaries may also be of assistance by holding the interest of candidates for the Corps between the time they first seek information and the time they enter nursing school. Youthful ardor is sometimes quickly quenched, especially with so many wartime distractions and competitions. Frequent talks with interested girls, informal discussions about their future in nursing, a little encouragement once in a while—all this will help to keep the flame of interest alive. The advantages of nursing as a profession with great career possibilities, a profession which can be easily re-entered after a period of inactivity, or practiced on a part-time basis, should be discussed. Nursing as a preparation for homemaking, motherhood, and intelligent citizenship should be emphasized to the girl who wants to be of maximum service to her country in war time but does not wish a career. Perhaps you can suggest certain activities that the candidate might engage in, or certain courses that she might take with advantage. She might, for example, make up certain deficiencies in her educational background by taking evening courses in biology or chemistry. A senior in high school might enter a well planned pre-training program provided in some hospital and health agencies. In any case, your interest and moral support will be more than valuable.

Every accredited hospital in the United States—6,500 of them—has been asked to act as an Information Center for the Corps program. Staffing these centers for most of the day with volunteer workers presents a problem. You will be making a substantial contribution to the Corps and to the war if you arrange to devote a few hours of your time each day or each week to serving as attendant at the Information Center in your local hospital. You may offer your services to your local Nursing Council for War Service or directly to any hospital in your town.

These, briefly, are the ways in which you can help us. Your country urgently needs that help. We call upon you for assistance now—in bringing the right young woman into the field where character and capacity count for so much, a field in which they learn living as well as working, helping their country as well as helping themselves.

*Reprinted from Bulletin of the Woman's Auxiliary, February, 1944,, page 56.

BOOK REVIEWS

"The chief glory of every people arises from its authors."—Dr. Samuel Johnson.

BIOCHEMISTRY AND MORPHOGENESIS. Joseph Needham, F.R.S. (Gonville and Caius College). XVI —785 pp., 328 figs., 35 plates. Cambridge University Press. Macmillan Co., New York, 1942. $12.50.

This monumental treatise deals in Part I with the developing embryo and its raw materials, in Part II with morphogenetic stimuli or embryonic inductions, in Part III with morphogenetic mechanisms. Only sampling methods can be employed here. In Part I the hen's egg is for obvious reasons much discussed. As to the vitelline membrane the Schreinemakers' equations are found inapplicable, and the distribution of ions in yolk and white is different from that required by the Donnan equilibrium theory (only 2-3 mV instead of the 130 mV required for such equilibria). The yolk of avian eggs contains all vitamins but C, the white only B2; the Fe of yolk is inorganic, probably adsorbed on to proteins or lipoprotein complexes (0.045 per cent). In the relation of egg to environment are discussed the evolution of the cleidoic egg, the metabolic properties of the cleidoic state and the transition from the non-cleidoic state to ovoviviparity. Embryonic nutrition is considered first in the light of the chick embryo's three "scaffoldings," the yolk-sac, amnion and allantois. The amount of material retained each day for construction of yolk-sac and that passed on for maintenance of the embryo are calculated by defining the Membrane Absorption Rate as $\frac{yi + ai + ei + ci}{y + a} \times 100$, and the Membrane Transit Rate as $\frac{ai + ei + ci}{y} \times 100$, where *yi*, *ai* and *ei* are daily increments (wet weights) respectively of yolk-sac, allantois and embryo, *ci* daily increment of material combusted and lost from the egg, *y* wet weight of yolk, *a* wet weight of allantois. Hereby it is found that before the 9th day, the high Absorption Rate is almost exclusively concerned with construction of yolk-sac; thereafter the Transit Rate indicates that almost all absorbed material goes to the embryo. Further discussion of embryonic nutrition deals with yolk utilization in lower vertebrates and invertebrates, "pigeon milk" and mammalian colostrum; nidicolous and nidifugous birds are compared, as are epithelio-chorial and haemo-chorial types of placenta. Part I closes with consideration of maternal diet and embryonic constitution in mammals, the mammalian placenta, its constitution and metabolism.

Part II reviews the large field of experimental morphology, with attention centering on the organizer effect of the dorsal lip of the blastopore in amphibian embryos, as studied by Spemann et al. The classical experiment of Spemann was to transplant presumtive mesoderm (dorsal lip) to epidermis or elsewhere, the result being that the transplant invaginated and organized the surrounding tissue to form a secondary embryo. A routine test, the *Einsteckung* method of O. Mangold, is to make a slit in the roof of the blastocele and introduce into the cavity a fragment of tissue or chemical: when the blastocele cavity disappears the test fragment lies between yolk-endoderm and ectoderm, thus testing its power to induce neural plate formation. Many living fragments show no such power, but if they are killed by heat or other means of denaturation, they do show this power very strongly; so do bits of killed adult tissues of all phyla indiscriminately (Holtfreter); so do many chemicals. The "evocator" or chemical in such tissues is said to be unmasked by killing, apparently a release from combination with some specific protein. This chemical appears to be a steroid; in fact, Waddington and Needham obtained fine neural tube inductions by implanting polycyclic hydrocarbons (1:9-dimenthylphenanthrene, and 9:10-di-n-butyl-9:10-dihydro-1:2:5:6-dibenzanthracene). And significantly Waddington obtained similar inductions with the carcinogens methyl-cholanthrene, styryl blue and 3:4 benzpyrene, also with various estrogens. Comparing organizers and cancer, it is shown that the organizer has a relation to the whole body plan: it exists in an "individuation field" whose mechanism represents an interplay of evocators and competencies (reactivity states) of the tissues. In contrast a cancerous growth escapes from the controlling pattern of its individuation field. Similar results follow if evocators are unmasked; new fields or chaotic growths ensue. There is much overlap of various domains of chemical specificity. Thus primary evocators are overlapped by 4 carcinogens and 4 estrogens, with one chemical (3:4 benzpyrene) common to all three domains; estrogens overlap androgens and both overlap sterols and bile acids. As to the hierarchy of organizers: neural tube induction by notochord and somites is first grade, lens and ear-capsule inductions by eye-cup and ear-vesicle respectively are second grade, tympanic membrane by ear-capsule is third grade. A long section is devoted to genes and organizers, where the underlying assumption is that genes are catalysts or producers of catalysts (enzymes) or of inhibitors. Lethal genes are discussed in the following categories: those (1) causing death of the embryo before action of the primary organizer, (2) interfering with action of the primary organizer, (3) interfering with action of second or third grade organizers, (4) producing anomalies of the individuation field by changes in growth rates of parts, (5) producing anomalies of embryonic metabolism, (6) killing or deforming the embryo by unknown mechanisms. Many cases are shown to have their "phenocopies," these being similar but non-heritable changes produced by external chemical or physical agents. Part II closes with a critique of regeneration, determination, "fate maps" and organ districts, with special attention to determination in insects and echinoderms.

Part III, dealing with morphogenetic mechanisms, asserts that these mechanisms may become dissociated from one another. Dissociability is considered under the following heads: (a) Growth or increase in spatial dimensions and in weight; (b) Differentiation or increase in complexity and organization; (c) Metabolic changes in the organism. The relation of growth rate of a part of the developing organism to growth rate of the whole or of another part is termed *Heterauxesis*, the suggested equation for which is $\log y = \log b + k \log x$, where y is the magnitude of the differentially growing part, x the magnitude of the whole organism, b the fraction of x which y occupies when x is unity ("fractional coefficient"), and k the important constant representing the ratio of growth rate of the part to growth rate of the whole. The sections on metabolism deal with carbohydrates, proteins, nucleins, lipins, sterols and pigments. There is selected evidence of the organization of cell protoplasm. The transparent sea urchin egg examined in the ultra-violet spectrometer shows no absorption curve typical of protein; only when the egg is dead does the protein curve appear (Vles and Gex). The findings of Chambers and others by micro-manipulator methods are cited, as are those of Conklin on the possible "spongioplasmic framework" of eggs. Living systems are held to be in a paracrystalline state (liquid crystals), where the molecules pass through a succession of "mesoforms," having some liquid-like flow but also a definite and regular arrangement, as shown, e.g., in transplanted limb-bud discs, in which the antero-posterior axis remains determined whereas the other axes are

labile (Harrison). The book closes with consideration of the mechanism of gastrulation, the fibers of mesoderm, and dynamic structure at the molecular level.

With all deference to old and honored strategies of approach, the present book reviews three other armies converging on the ivory citadel of the embryo, those of experimental morphology, endocrinology and genetics. The attack is still peripheral; no inner defenses have been breached. Yet withal we become convinced that only through such closing of ranks as may be effected by the biochemist can the citadel be reduced to a clear matter of fact.—C. F. DeGaris, M.D., Professor of Anatomy, University of Oklahoma School of Medicine.

THE PRINCIPLES AND PRACTICE OF OBSTETRICS. Joseph B. DeLee, A.M., M.D., formerly Professor of Obstetrics and Gynecology, University of Chicago; Consultant in Obstetrics, Chicago Lying-In Hospital and Dispensary; Consultant in Obstetrics, Chicago Maternity Center. J. P. Greenhill, B.S., M.D., attending Obstetrician and Gynecologist, Michael Reese Hospital; Obstetrician and Gynecologist, Associate Staff, Chicago Lying-In Hospital; Attending Gynecologist, Cook County Hospital; Professor of Gynecology, Cook County Graduate School of Medicine.

This eighth edition of the late Joseph B. DeLee's monumental volume, "Principles and Practices of Obstetrics," should be a 'must' in the library of every general practitioner and specialist in Obstetrics. Dr. Greenhill, the new editor, has made every effort to maintain Dr. DeLee's perfectionism in both presentation of the text, as well as in illustration. The text has its usual durable binding, is attractive in appearance and has 1,074 illustrations, 209 of which are in color.

Many major changes have been made, among these is the rearrangement of the material in the first third of the book. Dr. Greenhill made this change to avoid the slight confusion in the sequence of chapters in previous editions. The substitution of English terminology instead of Latin, in the designation of position and presentation is commendable.

Complete new sections, and in some instances, new chapters have been added, dealing with obstetrics and gynecologic endocrinology. The use of Vitamin K, vitamins and minerals, roentgenography in obstetrics, and sulfonamide drugs.

Particular mention should be made in reference to the new chapter on erythroblastosis fetalis, which is illustrated with beautiful colored plates, also the Water's Extraperitoneal Cesarean Section has been included.

Several chapters and sections have been completely rewritten, notably those on the toxemias of pregnancy in which the new classification proposed by the American Committee on Maternal Health has been followed.

The chapter on contracted pelvis is also notable, the older classification has been deleted and the new anatomic classification of Caldwell, Moloy, and d'Esopo and Thoms have been included.

The use of chemotherapy in the management of puerperal sepsis and the use of sulfonamides in the treatment of urinary tract infections in pregnancy has been emphasized. New developments in analgesic and anesthetic agents have been reviewed. The use of the oxytocics, namely pituitary extract, ergot and ergonovine is again discussed. One of the best written of the new sections is that on the indication for and the contraindications for Cesarean Sections.

A list of references at the end of each chapter has been limited to worthwhile contributions, chiefly to those of more recent articles dealing with the subject matter, although all the classic contributions have been listed.

It is the opinion of this reviewer that this new eighth edition will enjoy the universal acclaim that was accorded each of the preceeding editions throughout the English speaking world during the past thirty years. —Gerald Rogers, M.D.

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New reprint available on cigarette research—Archives of Otolaryngology, March, 1943, pp. 404-410. Camel Cigarettes, Medical Relations Division, One Pershing Square, New York 17, N. Y.

MEDICAL ABSTRACTS

"STUDIES ON 2-SULFANILAMIDE-4-METHYL-PYRIMIDINE (SULFAMERAZINE, SULFAMETHYL-DIAZINE) IN MAN. THE TREATMENT OF PHEUMOCOCCIC PNEUMONIA." From the Committee for the Study of Pneumonia, which includes J. G. Reinhold, Ph.D., and S. B. Rose, M.D. By Harrison F. Flippin, M.D., William I. Gefter, M.D., Albert H. Domm, M.D. and Jefferson H. Clark, M.D. (From the Philadelphia General Hospital, Philadelphia, Pa.) The American Journal of the Medical Sciences, page 498, June 11, 1943.

Therapeutic Results. The results of treatment in the two therapeutic groups are shown. Of the patients treated with sulfamerazine, six died, and in the sulfadiazine treated group, eight died, the mortality rates being 7.5 per cent and 10 per cent respectively. Eighteen patients with bacteremia were treated with sulfamerazine and six of these died, 33.3 per cent mortality. In the sulfadiazine treated group, four of the 22 bacteremic patients died, 18.2 per cent mortality.

In evaluating any therapeutic agent clinically, one must consider the effect of the agent on the course of the disease as well as its influence on the mortality incidence. A critical drop in temperatures occurred within 24 hours in 51.4 per cent of the patients treated with sulfamerazine, as compared with 30.6 per cent of the patients in the sulfadiazine treated group. Within 48 hours, 77.1 per cent of the patients receiving sulfamerazine and 66.7 per cent of those treated with sulfadiazine showed a critical drop in temperature. The temperature returned to normal within 24 hours in 17.5 per cent of the patients in the sulfamerazine treated group and in 15.3 per cent of the patients receiving sulfadiazine. Within 72 hours a return to normal temperature occurred in 72.9 per cent of patients in the sulfamerazine and sulfadiazine groups respectively.

Complications. The incidence of complications was low, 4.4 per cent. Three cases developed endocarditis and died. On case of empyema occurred in three sulfadiazine treated cases with no deaths.

Toxic Reactions. Out of the 160 patients, the incidence of toxic reactions attribute to the drug was small, being 9.4 per cent. Vomiting was noted in two patients in each group, hematuria in three patients receiving sulfamerazine and in four with sulfadiazine. Crystalluria was indicated in approximately 15 per cent of each group; toxic psychosis in one patient treated with sulfameraizine; drug fever in three patients, one with sulfamerazine and two with sulfadiazine. No skin lesions observed. No marked reduction or change in the blood count.

The average blood concentration in sulfamerazine was 12.7 mg. and with sulfadiazine 7.9 mg.

"Comment. Sulfamerazine and sulfadiazine are both effective drugs in the treatment of pneumococcic pneumonia. The mortality of 7.5 per cent in the sulfamerazine group and 10 per cent in the sulfadiazine group compare favorably when all the factors influencing fatality are considered. Clinical response, as manifested by a fall in temperature, was slightly more in evidence with sulfadiazine; and this, we believe, may be related to the more rapid rise and higher concentrations in blood attained by sulfamerazine as compared with sulfadiazine.

"In both therapeutic groups there was a low incidence of toxic manifestations, none of which was serious, following the use of these drugs. It is to be remembered, however, that the hazard of severe toxic reactions increases with the prolonged use of both sulfamerazine and sulfadiazine. In this series of pneumonia cases most patients required more than 20 to 30 gm. of either drug, extending over a short period of approximately six days. We believe that this explains in part the low incidence of toxicity encountered in this study.

SUMMARY

"1. Sulfamerazine was given to 80 adult patients with pneumococcic pneumonia and the response was compared with that of a control series of 80 adult patients treated with sulfadiazine.

"2. Mortality in the two therapeutic groups showed no significant difference (sulfamerazine 7.5 per cent, sulfadiazine 10 per cent.)

"3. Sulfamerazine tended to lower the temperature somewhat more rapidly than did sulfadiazine; however, the duration of chemotherapy and the incidence of complications were essentially the same for the two groups.

"4. The incidence of toxic reactions was low and comparable for both sulfamerazine and sulfadiazine. No serious reactions were encountered with either drug.

"5. The group treated with sulfamerazine showed higher plasma concentration of free drug than did the group receiving larger or equivalent amounts of sulfadiazine."—H.J., M.D.

"THE VALUE OF THE EXAMINATION OF GASTRIC CONTENTS FOR TUBERCLE BACILLI." John A. Foley, M.D., F.A.C.P., and John B. Andosca, M.D., Boston, Massachusetts. Annals of Internal Medicine, Vol. 19, Number 4, October, 1943.

In this the authors have again called to attention the fact that gastric lavage yields sputum valuable in the diagnosis of tuberculosis. This has been mentioned many times before, as is pointed out, various authors reporting as high as 20 to 80 per cent positive sputum findings in their cases of proven tuberculosis.

Six interesting cases are briefly reported; the mechanism of the sputum and bacilli being inadvertently swallowed, is explained; the technic of examination of the sputum is given and the results of 639 cases, in which such examinations were made, reported.

They summarize as follows:

1. The importance of gastric lavage for the detection of tubercle bacilli cannot be overestimated.

2. Out of 639 cases with negative sputum, 187 or 29.2 per cent were found to be positive by gastric lavage; 32 non-tuberculous cases employed as controls were all negative.

3. Guinea pig inoculation of the gastric contents definitely gives a higher percentage of positive results than direct microscopy.

4. Gastric lavage is an aid not only in establishing a diagnosis of pulmonary tuberculosis but also in its differential diagnosis, treatment and prognosis. It is in addition an accurate guage of the infectiousness of a patient and helps to determine his relationship to society.

5. We have attemped to show by case reports the reliability and importance of gastric lavage.—H.J., M.D.

"DERMATOLOGIC LESIONS ABOUT THE EYES." Oliver S. Ormsby. American Journal of Opthalmology, Series 3, Vol. 26, No. 8, pages 850-855, August, 1943.

The disease described under the title "essential shrinkage or shriveling of the conjunctiva" is considered synonymous with ocular pemphigus. It may occur independently or as a symptom of some other affection.

The early symptoms of the disease consist of a catarrhal inflammation of the conjunctiva associated with a thick mucoid discharge. There is some burning and itching at this time. These symptoms may be recurrent over a period of years. Vesicles and bullae are early manifestations and may occur on any portion of the cornea and conjunctiva. In the late atrophic stage such vesicles will occur on other mucous membranes. At a later date the disease is characterized by xerosis, chronic inflammation of the subconjunctival tissue, causing shrinkage, formation of scar tissue and symblepharon. There may be associated phenomena on the cornea. The course of the disease varies. It usually is very slow, lasting over a period of years with remission and exacerbations. Blindness has ensued within two years in some cases.

Ectodermosis erosiva pluriorificialis is an affection resembling erythema multiforme. It is characterized by an acute onset with fever and constitutional symptoms and an eruption that involves the extremities chiefly, together with stomatitis, conjunctivitis, and sometimes involvement of the mucosa of the nose, urethra, vagina, and anus. The constitutional symptoms consists of chills and elevation of temperature ranging from 102 degrees to 104 degrees F. There is also headache and malaise. Stomatitis, which may be severe, begins with vesicular lesions; later, pseudomembranes will develop. The inflammation often extends to the throat and epiglottis. Profuse salivation is usually present. Ocular symptoms are always prominent and may be so severe as to cause partial or total blindness. They begin with a vesicular bilateral conjunctivitis. Inflammation of the nasal mucosa is also present and there may be a vesicular dermatitis in the anogenital region. After several days a multiform eruption, consisting of macules, vesicles, and purpuric lesions, develops on the hands and feet. The disease runs its course from three to six weeks as a rule. Relapses have been reported.

In 1940 Bencet described a new disease characterized by aphthous ulcers in the mouth, ulcerating lesions on the genitalia, and retinitis and iridocyclitis. In some cases lesions resembling erythema modosum were present. The syndrome is recurrent, runs an indefinite course, and varies in severity. A virus infection is possibly present.

The chief vitamin deficiencies with ocular and cutaneous symptoms are that of vitamin A and vitamin G or B2 (riboflavin.) The association of night blindness, keratomalacia and follicular hyperkeratosis is now a well recognized syndrome due to deficiency of vitamin A. Such condition can be corrected by prescribing the best sources of vitamin A in the diet, which are butter, cream, egg yolk, fish-liver oils, and green leafy vegatables.

In ariboflavinosis there is a perlechelike eruption at the angles of the mouth, a scaley inflammation of the vermilion portion of the lips, together with a mild, greasy, seborrhealike dermatitis in the nasolabial folds and at the inner and outer canthi of the eyes. Sometimes there may be also a vascularizing keratitis. This will cause photophobia, dimness of vision, circumcorneal injection, and burning sensations of the eyeball. Corneal opacities and iritis may occur. Keratitis and conjunctivitis are quite often associated with rosacea and are examples of a riboflavin deficiency. Riboflavin in the dosage of 5 mg .thrice daily is efficient in clearing up these lesions. Best sources of riboflavin are milk, eggs, liver, muscle, and yeast.

A dermatitis occurring on the lids is one of the commonest affections seen by the dermatologist. The commonest cause of such dermatitis in women is the use of cosmetics, particularly nail polish. Very often due to nail polish, the face and the region around the ears may be involved in addition. Other sensitizing agents are present in proprietary hair dyes and hair lotions. When it has been proved that an external irritant is an exciting factor, the management of the case becomes simple. Sodium thiosulfate may be injected in the dosage of one gram intravenously every other day for a week, together with a 10 per cent naftalan ointment applied locally.

Xanthelesma is limited to the eyes in many cases. In a size ranging from pinhead to pea, or larger, the lesion involves the upper lip at the inner canthus as chrome-yellow lesions that merge to form large plaques which sometimes interfere with vision. In about 70 per cent of the cases there is a moderate to marked elevation of blood lipoids. The management of xanthelesma is often unsatisfactory. If the skin is lax, complete surgical removal is efficient. Electric needling gives a fairly good result in some patients. In others refrigeration with carbon dioxide snow is efficient.—M.D.H., M.D.

"EAR, NOSE AND THROAT CASUALTIES IN A GENERAL HOSPITAL IN THE MIDDLE EAST." E. G. Collins. British Medical Journal, Volume 2, pages 386-389. September 25, 1943.

The present report covers the period from September 20, 1940 to February 20, 1941. During the months under review war injuries affecting the ear, nose and throat were few in number, and the type of disease bore a close resemblance to that found in any hospital in the British Isles.

There is no doubt that the frequency of otitis externa is increased by service in the Middle East. External and middle-ear otitis are approximately the same in number. It is in its acute form that the disease interferes with the efficiency of the soldier, but there is no sharp demarcation between the acute and the chronic stage. With the least provocation the latter is liable to flare up and become acute. The etiology still remains obscure. Dust, heat with its concimitant sweating, bathing, and, in the Western Desert, lack of water for personal ablution have all been mentioned as factors in its causation. Other possible causes are the high salt concentration of the water and an allergic origin due to focal sepsis. It seems possible that several factors, and not one factor alone, may be responsible, and that anything that favors the growth of organisms and the maceration of the skin may play a part. In a series of aural swabs examined the organisms found were diphtheroids, B. proteus, and B. pyocyaneus. The last named was very difficult to eradicate. Staphylococcus aureus was present in a great proportion, while the Streptococcus was infrequent.

In acute otitis extrena the soldier experiences very severe pain in the ear, there is scanty aural discharge, and the meatus is greatly narrowed and often pin-hole. There is often a deficiency of true waxy secretion, and the return of normal soft wax was regarded as one of the signs of cure.

Many acute cases could be prevented or aborted if the soldier reported to the medical officer at the first sign of any aural discharge. Some protection was afforded by the use of vaselined cotton-wool plugs inserted in the ears while bathing. Great care should be taken in drying out the ears with any rough towel after bathing. It is better to use a pencil of cotton-wool. Bathing in swimming-baths appeared to be more harmful than bathing in the sea. Where there is an associated seborrheic dermatitis of the scalp it must be treated. Thorough cleaning of the external auditory meatus, and especially the recess near the anterior-inferior part of the tympanic membrane is an essential part of successful treatment. Ten per cent ichthyol in glycerin and 8 per cent solution of aluminum acetate are very valuable.

Acute otitis media did not form a large proportion of the cases during the period of review, but there was a definite increase during the summer months. This was probably due to the greater use of the swimming-baths. The prophylactic measures include the avoidance of diving and of swimming under water when the soldier has a cold. The use of dirty handkerchiefs and incorrect blowing of the nose are other obvious causes. Treatment was greatly influenced by the oral administration of sulfonamides, and it was necessary to submit only 6 patients out of a total of 47 cases of acute otitis media

to a cortical mastoid operation. In local treatment it matters little whether the wet or dry method is used so long as the ear is cleaned out thoroughly before any drops are instilled. The otologist should bear in mind that radical mastoid cavities are slow to heal in the Middle East. The modified radical mastoid operation is, where possible, the method of choice.

The prophylaxis of acute tonsillitis consists essentially in isolation. Every effort should be made to carry this out near the front line; only cases of frequently recurrent attacks should be sent back. At a base hospital a special ward should be available for cases of tonsilitis only, even at the cost of empty beds. The infecting organism in the majority of cases in the Middle East was Streptococcus Viridans; but in spite of this fact the administration of sulfonamides decreased the length of stay in the hospital. Local treatment followed the usual lines. Operation by dissection of tonsils was undertaken in 17 per cent of cases. Only those patients who suffered from three or four attacks were considered suitable candidates for operation.

The figures for sinusitis strongly suggest that there is a high incidence of sinus infection in the Middle East. Part of this must be attributed to the infected dust-laden atmosphere as there was a noticeable increase during a dust storm. Bathing in the swimming-pool appeared to have a deleterious effect, as even if the bacillary content was low, the heavy chlorination practiced had a harmful effect on ciliary activity in the nose. Conservative measures are recommended, such as inhalations with the use of ephedrine in saline sprays, headlight baths, shortwave diathermy, and repeated proof-puncture. It was found that 74 per cent were cured by these means, and later experience in the desert confirmed that operated cases did badly. Many patients with so-called vacuum sinus disease were improved by rest in bed and the ordinary conservation treatment of acute sinusitis.

It is the general opinion that during war the septum operation should be regarded as a luxury measure except in cases of gross nasal obstruction or where it forms a contributory factor in the causation of catarrhal deafness or sinusitis.—M. D. H., M.D.

"THE OCULAR MANIFESTATIONS OF SPONTANEOUS SUBARACHNOID HAEMORRHAGE." A. J. Ballantyne. The British Journal of Ophthalmology. Volume 27, pages 383-414. September, 1943.

Subarachnoid hemorrhage may occur spontaneously or as a result of head injury. The traumatic and non-traumatic cases present many points of similarity, but important differences result from the physical factors attending their onset.

The author discusses the non-traumatic group, with pathological findings in five cases. Since the hemorrhage, in the majority of cases, comes from the vessels of the circle of Willis, being due to the rupture of either an eneurysm or a weakened portion of the vessel wall, cases occur in which the effusion of blood is relatively slight, but prone to recurrence. The leading symptoms are severe deep-seated pain often accompanied by paresis of one or other of the ocular muscles. Cerebral arteriography may reveal the presence of an aneurysm, and lumbar puncture discover blood staining of the cerebrospinal fluids.

In the severe cases the clinical picture is entirely different. The patient is seen in a more or less comatose state, with a history of sudden onset, and with signs suggestive of cerebral compression and meningeal irritation: pupil anamalies, mystagmus, conjugate deviation of the eyes, and paralysis of cranial nerves, including the oculomotors, are often observed. These are not in themselves sufficient to justify a diagnosis of subarachnoid hemorrhage. The presence of retinal hemorrhages and papilledema, if these are found on ophthalmoscopic examination, strongly supports such a diagnosis, and a history of minor attacks adds to its probability, but the matter is settled by the discovery of blood in the cerebrospinal fluid.

Such cases are usually terminated fatally, and it is not surprising that in the majority no record is obtained of the state of the vision. At post-mortem examination blood is found in large amounts in the subarachnoid spaces at the base of the brain, sometimes breaking through into the substance of the brain or into the lateral ventribles. The source of the blood is usually found in a ruptured aneurysm or a ruptured branch of the circle of Willis.

Immediately behind the optic canal, the optic nerves may show a bluish coloration owing to the presence of blood between the sheaths, and blood in this situation may be seen on the cut surface of the nerve. Even in cases where no blood is found in this region, exposure of the orbital part of the optic nerve often shows this to be expanded and discolored by the presence of blood between its sheath. In some cases this appearance affects the whole nerve from the optic foramen to the eyeball; but in the majority the ecchymosis is patchy and intermittent. It is usual to find some degree of bulbous distention of the optic nerve sheaths immediately behind the globe. Distension of the orbital veins, and hemorrhages amongst the orbital contents and on the surface of the sclera may also be observed.

In the five cases reported by the author there was a certain similarity: the history of sudden onset with severe pain, symptoms of cerebral irritation and compression, and coma preceding death. Blood-staining of the cerebrospinal fluid was present in all.

The discovery of hemorrhage in the subarachnoid space at the base of the brain, within the sheaths of the optic nerve, and in many cases in the retina and even in the vitreous, originally led to the belief that the blood passed in a continuous manner in the subarachnoid space through the optic canal into the orbit, and thence along the course of the central retinal vessels, or by lymph channels accompanying the optic nerve at the periphery of the lamia cribrosa into the retina.

It is now generally agreed that the blood in the cerebral subarachnoid space does not, as a rule, travel through the optic foramen into the subarachnoid space of the optic nerve. It is more generally assumed that hemorrhage occurs in the dural sheath at the apex of the orbit, and tracks forward into the subdural and subarachnoid spaces, and that blood in the latter situation, by putting pressure and tension on the central retinal vein where it crosses the space, causes stasis in the central retinal vein and thus accounts for the retinal and vitreous hemorrhages.

On the basis of the five cases described it is shown that hemorrhages occur over a much wider field than the optic nerve sheaths, the retina and the vitreous, and that these cannot be accounted for by the assumed pressure on the central retinal vein.

The hemorrhages varied in distribution from case to case, but were found in and between the sheaths of the optic nerve, among the orbital fat and orbital muscles, surrounding the posterior ciliary nerves, ciliary ganglion, ophthalmic and posterior ciliary arteries, and the vessels of the chiasma and optic tracts; as well as beneath the retina, in all its layers, in front of the retina and in the vitreous. Serial sections showed that these were not in continuity with one another, but were discrete and independent hemorrhages, simultaneous in their occurence. The occurence of such multiple hemorrhages can only be explained by a sudden rise of intracranial pressure causing stasis in all the venous channels which drain the tissues of the eye and the contents of the orbit.—M.D.H., M.D.

KEY TO ABSTRACTORS

E. D. M. .....Earl D. McBride, M.D.
H. J. .....Hugh Jeter, M.D.
M. D. H. .....Marvin D. Henely, M.D.

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